

14

1980 Water Report

Imperial Irrigation District

J. R. WILSON
Manager
Water Department

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**WATER DEPARTMENT
OPERATIONS AND ORGANIZATION**

Water is diverted from the Colorado River at Imperial Dam through the District's All-American Canal headworks and desilting basins, thence into the All-American Canal for transporting to Imperial, Yuma and Coachella Valleys. Yuma Project water is diverted from the All-American Canal at Siphon Drop. Coachella Valley Water District water is diverted at Drop No. 1 to the Coachella Branch of the All-American Canal. All water passing below Drop No. 1 in the All-American Canal is for use by Imperial Irrigation District.

The District's gravity-flow canal and drainage system serves an area of 507,117 acres of irrigated farm land. The total gross area within the District's boundaries is 1,062,290 acres, including undeveloped area; cities, towns, airports, feed lots, etc., area below the -230 contour Salton Sea Reserve Boundary and area covered by Salton Sea; and area in canals, drains, rivers and railroads.

Water Department's responsibilities include operation and maintenance of the All-American Canal headworks and desilting basins at Imperial Dam, 80 miles of All-American Canal, 3 miles of New Briar Canal, a 1,626 mile network of other main canals and laterals, 52 miles of drains in All-American Canal Section and 1,402 miles of main and lateral drains. Due to the concrete lining of the Coachella Branch of the All-American Canal, the Coachella Valley Water District now operates and maintains this 49-mile section.

Water conveyed in the District's canal system serves agricultural, industrial and domestic purposes. All cities and towns in Imperial Valley receive raw water supplied from District canals.

Department organization includes Irrigation and Drainage Sections, All-American Canal Section, Water Control Section, Civil Engineering Section, Drainage Construction and Maintenance Section and Heavy Equipment Operations Section.

Number of Employees in Water Department - December 31, 1980

Water Administration	6
Water Engineering	24
Water Control	58
Heavy Equipment Operators Pool	61
Drainage Construction, Maintenance and Design	38
Irrigation and Drainage Sections	203
All-American Canal	39
Total	429

Soil Conservation Service District

The local Soil Conservation Service District operates under a memorandum of understanding between the District and the U.S. Department of Agriculture, and a close liaison is maintained between the agencies. Engineering information produced by one agency is available to the other organization.

The Imperial Irrigation District Board of Directors also serve as Directors for the Soil Conservation Service District and sets policy for the Soil Conservation Service operations in Imperial Valley.

Cars and Trucks Assigned to Water Department Sections, Units and Divisions

Manager, Water Department	1
Assistant Manager, Water Department	1
Engineering Section	4
Engineering - Boat Trailer	1
Water Control Section	29
Drainage Construction	31
Drainage Construction - Utility Flatbed Trailers	3
Equipment Operations	44
Equipment Operations - Flatbed Trailer	1
Equipment Operations - Pull Trailer	1
River Division	11
River Division - Dump Truck	1
River Division - Tiltbed Trailer	1
River Division - Boat Trailer	1
Western Division	11
Western Division - Boat Trailer	1
Western Division - Pump Trailer	1
Western Division - Trailer (Debris removal)	1
Western Division - Flatbed Trailer	1
Western Division - Tiltbed Trailer	1
Superintendent, General, Irrigation & Drainage	1
Holtville Division	25
Holtville Division - Tiltbed Trailer	1
El Centro-Calexico Division	24
El Centro-Calexico Division - Trailer	2
Imperial Division	21
Brawley Division	21
Westmorland Division	23
Westmorland Division - Tiltbed Trailer	1
Calipatria Division	21

Heavy Equipment Assigned to the Water Department

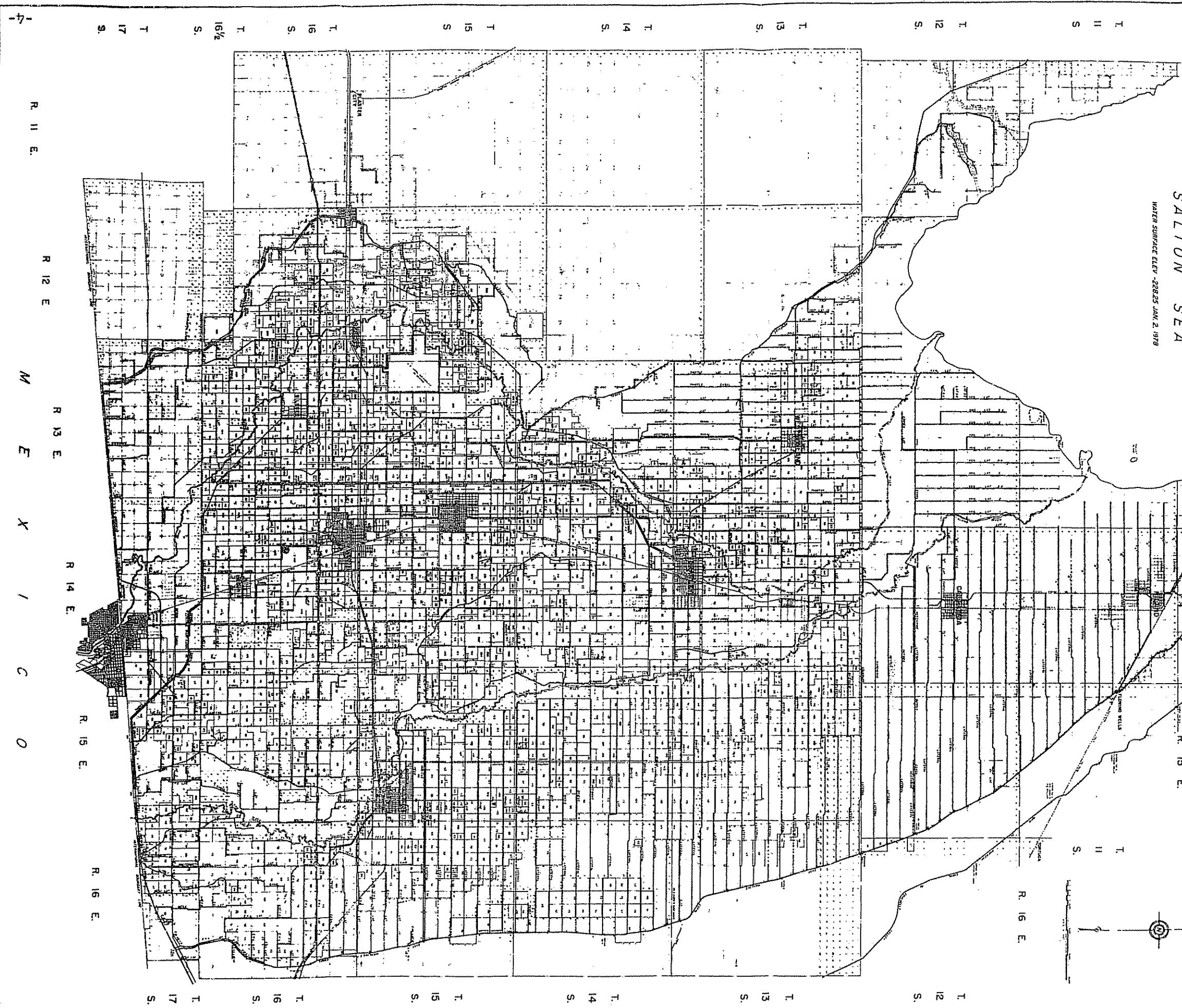
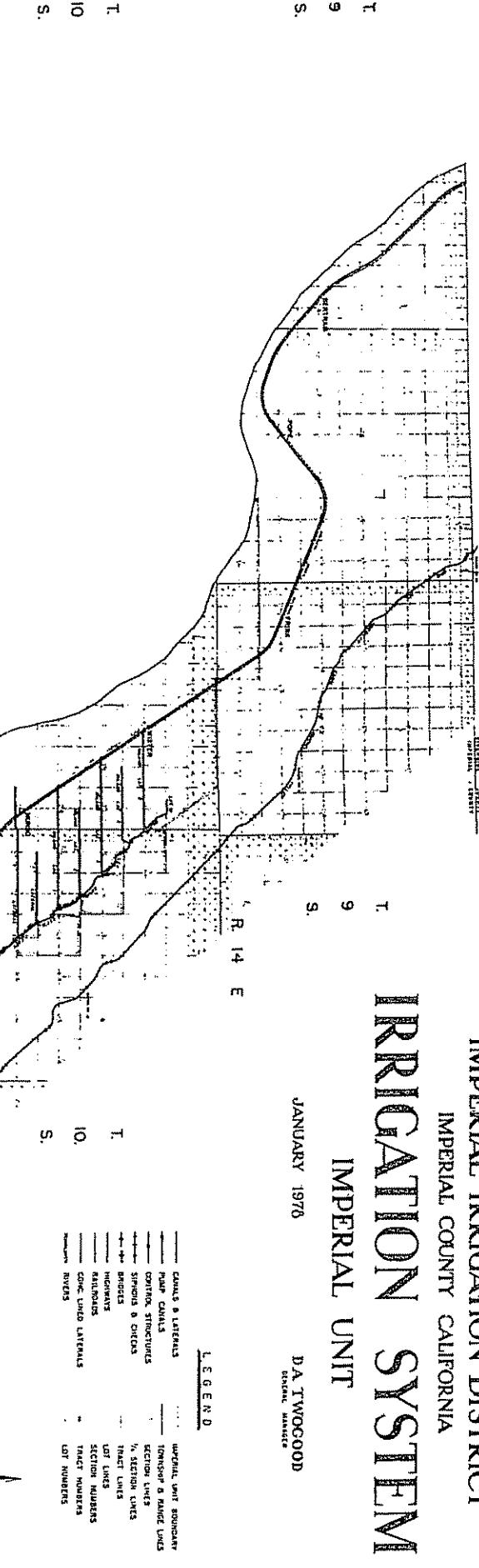
22-B Draglines	9
22-B Motor Cranes	4
38-B Dragline	1
Bantam Teleskoops	5
D-7 Bulldozers	12
Motor Graders	3
Backhoes	8
Backhoe - Crawler Mounted	2
Skiploader	1
Sprinkler Trucks	4
Lube Trucks	2
Wheel Tractors	13
Dump Trucks	7
Boom Trucks	10

**MAPS OF
IRRIGATION AND DRAINAGE SYSTEMS**

IRRIGATION SYSTEM

IMPERIAL IRRIGATION DISTRICT
IMPERIAL COUNTY CALIFORNIA

JANUARY 1976
DA TWOCOOD
DRILL NUMBER



IMPERIAL IRRIGATION DISTRICT

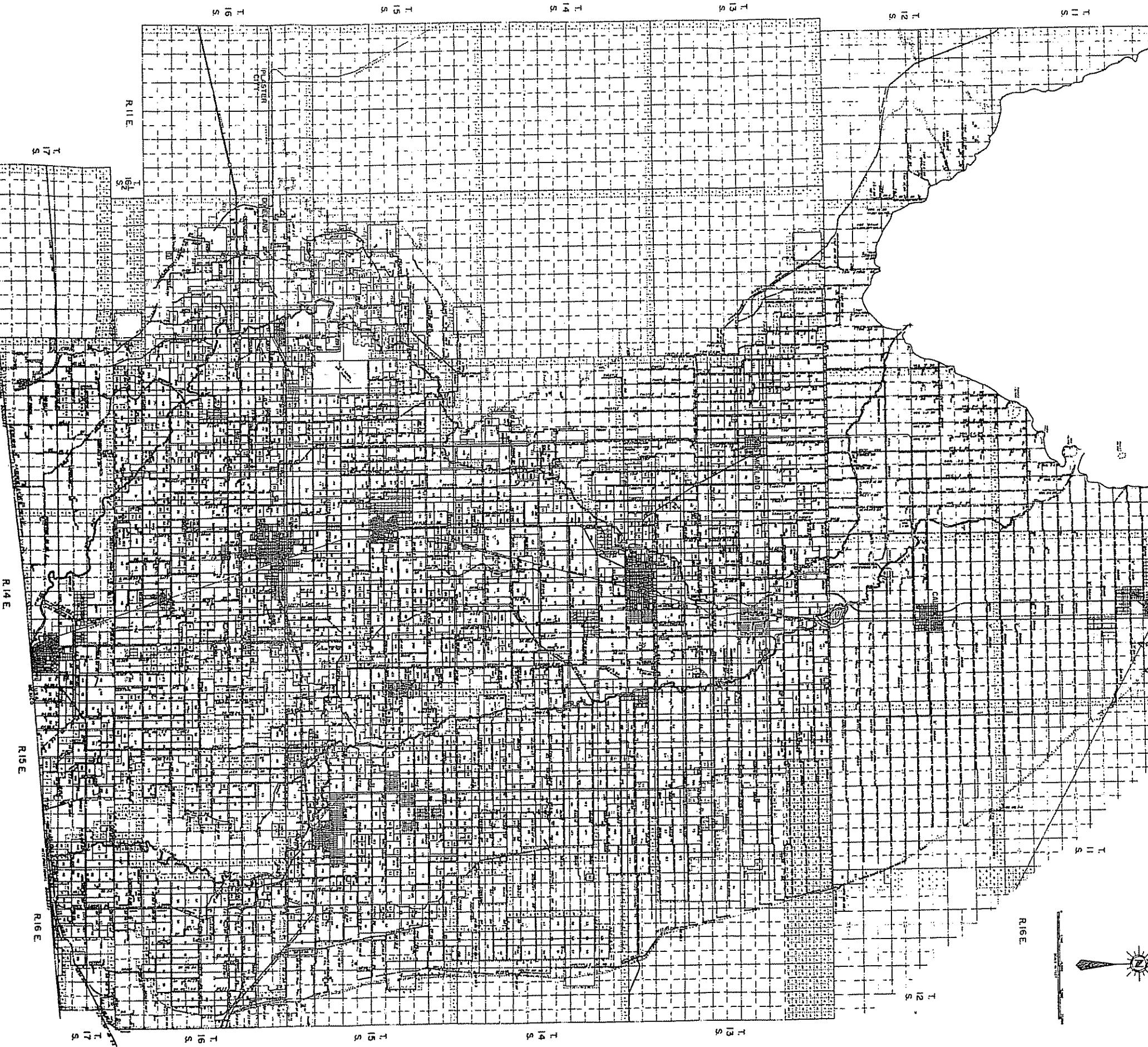
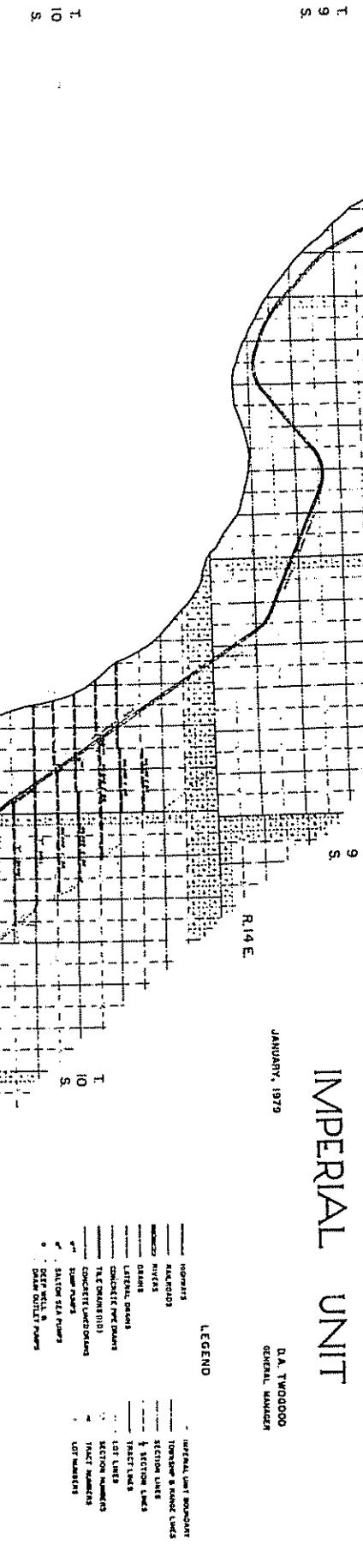
IMPERIAL COUNTY, CALIFORNIA

DRAINAGE SYSTEM

IMPERIAL UNIT

JANUARY, 1972

O.A. TWO0000
GENERAL NUMBER



**GROSS ACREAGE, CANAL AND DRAIN MILEAGE
AND INVENTORY OF STRUCTURES**

GROSS ACREAGE OF IMPERIAL IRRIGATION DISTRICT
WITHIN THE A.A.C. SERVICE AREA BOUNDARIES

1. Imperial Unit

Acreage Included in Imperial Unit as of 12-31-80	626 614
Included August 10, 1967, (No Water Rights)	<u>63 933</u>
Total Acreage Included in Imperial Unit	690 547
Acreage Within Imperial Unit not Included	3 874
Total Gross Acreage - Imperial Unit	694 421

2. East Mesa Unit

Acreage Included in East Mesa Unit as of 12-31-80	201 916
Acreage Within East Mesa Unit not Included	<u>18 727</u>
Total Gross Acreage - East Mesa Unit	220 643

3. West Mesa Unit

Acrease Included in West Mesa Unit as of 12-31-80	67 146
Acrease Within West Mesa Unit not Included	<u>59 130</u>
Total Gross Acreage - West Mesa Unit	126 276

4. Pilot Knob Unit

Acrease Included in Pilot Knob Unit as of 12-31-80	15 478
Acrease Within Pilot Knob Unit not Included	<u>5 472</u>
Total Gross Acreage - Pilot Knob Unit	<u>20 950</u>
Total	1 062 290
Total Acreage Included - All Units	975 087
Total Acreage not Included - All Units	<u>87 203</u>
TOTAL GROSS ACREAGE WITHIN A.A.C. SERVICE AREA BOUNDARIES	1 062 290

SALTON SEA AREA

The approximate area covered by that portion of Salton Sea lying within the boundary of the I.I.D. on 12-31-80	103 245 Acres
The approximate area within the I.I.D. boundaries lying above the December 31, 1980, shore line of Salton Sea and below the -230 Salton Sea Reserve Boundary	2 155 Acres

CANAL AND DRAIN MILEAGE AS OF DECEMBER 31, 1980

	Total Miles	Miles Earth Section	Miles Concrete Lined	Miles Pipelined
All-American Canal - Canals	82.17	79.57	2.60	0.00
All-American Canal - Drains	51.64	37.51	0.00	14.13
Main Canals	153.31	145.53	7.78	0.00
Lateral Canals	1 472.86	712.70	751.37	8.79
Drains	<u>1 401.53</u>	<u>1 305.23</u>	<u>0.40</u>	<u>95.90</u>
Totals	3 161.51	2 280.54	762.15	118.82

MAIN CANAL MILEAGE AS OF DECEMBER 31, 1980
BY DIVISIONS

Divisions	Total Miles	Miles Earth Section	% Earth Section	Miles Concrete Lined	% Concrete Lined	Miles	%
						Pipelined	Pipelined
Holtville	16.60	16.60	100.00	0	0	0	0
El Centro-Calexico	37.03	32.83	88.66	4.20	11.34	0	0
Imperial	27.00	27.00	100.00	0	0	0	0
Brawley	12.94	12.94	100.00	0	0	0	0
Westmorland	19.20	19.20	100.00	0	0	0	0
Calipatria	<u>40.54</u>	<u>36.96</u>	<u>91.17</u>	<u>3.58</u>	<u>8.83</u>	<u>0</u>	<u>0</u>
Division Totals	153.31	145.53	94.93	7.78	5.07	0	0
All-American Canal	<u>82.17</u>	<u>79.57</u>	<u>96.84</u>	<u>2.60</u>	<u>3.16</u>	<u>0</u>	<u>0</u>
Grand Total	235.48	225.10	95.59	10.38	4.41	0	0

LATERAL CANAL MILEAGE AS OF DECEMBER 31, 1980
BY DIVISIONS

<u>Divisions</u>	<u>Total Miles</u>	<u>Miles Earth Section</u>	<u>% Earth Section</u>	<u>Miles Concrete Lined</u>	<u>% Concrete Lined</u>	<u>Miles Pipelined</u>	<u>% Pipelined</u>
						<u>Pipelined</u>	
Holtville	295.08	81.88	27.75	212.84	72.13	0.36	0.12
El Centro-Calexico	229.47	121.94	53.14	107.03	46.64	0.50	0.22
Imperial	203.43	93.99	46.20	108.40	53.29	1.04	0.51
Brawley	244.01	133.97	54.90	104.10	42.66	5.94	2.44
Westmorland	199.66	73.35	36.74	126.31	63.26	0.00	0.00
Calipatria	<u>301.21</u>	<u>207.57</u>	<u>68.91</u>	<u>92.69</u>	<u>30.77</u>	<u>0.95</u>	<u>0.32</u>
Totals	1,472.86	712.70	48.39	751.37	51.01	8.79	0.60

DRAIN MILEAGE AS OF DECEMBER 31, 1980
BY DIVISIONS

Divisions	Total Miles	Miles Earth Section	% Earth Section	Miles Concrete Lined	% Concrete Lined	Miles Pipelined	% Pipelined
Holtville	117.33	98.15	83.65	0.40	0.35	18.78	16.00
El Centro-Calexico	79.83	73.56	92.15	0.00	0.00	6.27	7.85
Imperial	70.82	66.29	93.60	0.00	0.00	4.53	6.40
Brawley	219.23	216.92	98.95	0.00	0.00	2.31	1.05
Westmorland	135.58	133.31	98.33	0.00	0.00	2.27	1.67
Calipatria	<u>282.27</u>	<u>262.31</u>	<u>92.93</u>	<u>0.00</u>	<u>0.00</u>	<u>19.96</u>	<u>7.07</u>
Division Totals	905.06	850.54	93.98	0.40	0.04	54.12	5.98
Drainage	496.47	454.69	91.58	0.00	0.00	41.78	8.42
All-American	<u>51.64</u>	<u>37.51</u>	<u>72.64</u>	<u>0.00</u>	<u>0.00</u>	<u>14.13</u>	<u>27.36</u>
Grand Total	1 453.17	1 342.74	92.40	0.40	0.03	110.03	7.57

INVENTORY OF STRUCTURES
December 31, 1980

<u>Main Canals - Divisions</u>	<u>Concrete</u>	<u>Rubble</u>	<u>Wood</u>	<u>Others</u>	<u>Total</u>
Deliveries	191	13	2	-	206
Checks	57	2	-	-	59
Lateral Headings	134	8	-	-	142
Control Structures	97	4	1	-	102
Bridges	5	-	22	4	31
Siphons	24	1	-	-	25
Moss Pipes	5	-	-	2	7
Storm Spillways	4	4	-	-	8
Flumes	-	-	-	1	1
 Total Divisions	 517	 32	 25	 7	 581
All-American Canal	145	-	-	-	145
 Total Main Canals	 662	 32	 25	 7	 726
 <u>Lateral Canals - Divisions</u>					
Deliveries	5 221	127	28	-	5 376
Checks	3 167	163	20	-	3 350
Lateral Headings	325	24	1	-	350
Control Structures	703	49	19	2	773
Bridges	28	4	28	1	61
Siphons	126	2	-	4	132
Moss Pipes	122	-	5	1	128
Flumes	1	-	-	-	1
Storm Spillways	32	4	-	-	36
 Total Lateral Canals	 9 725	 373	 101	 8	 10 207
 <u>Drains</u>					
Control Structures	404	9	12	2	427
Bridges	2	-	33	-	35
Siphons	1 304	11	5	40	1 360
Flumes	3	-	35	1	39
Outlets	213	-	-	-	213
Spillways	21	-	-	-	21
Maintenance Crossings	350	-	-	-	350
Deliveries - pump	2	-	-	-	2
Deliveries	4	-	-	-	4
Checks	1	-	-	-	1
 Total Drains	 2 304	 20	 85	 43	 2 452

LOCATION OF CONTROL DROPS IN ALAMO AND NEW RIVERS

LOCATION OF CONTROL DROPS IN ALAMO RIVER

Alamo River Drop No. 2, near the center of the N. E. 1/4 of Section 12, 12-13, was installed in 1959.

Alamo River Drop No. 3, in the northwest corner of Section 29, 12-14, was installed in 1960.

Alamo River Drop No. 3-A, is located immediately east of the existing North End Dam, in the northwest corner of Section 29, 12-14, and was installed in 1967.

Alamo River Drop No. 4, is located immediately west of railroad bridge, near the east line of Tract 170, Section 3, 13-14, and was installed in 1966.

Alamo River Drop No. 5, in the northwest corner of Tract 180, Section 12, 13-14, was installed in 1960.

Alamo River Drop No. 6, in the southwest corner of Section 30, 13-15, was installed in 1961.

Alamo River Drop No. 6-A, in the southeast corner of Tract 155, Section 18, 14-15, was installed in 1974.

Alamo River Drop No. 7, near the center of Tract 55, Section 30, 14-15, was installed in 1958.

Alamo River Drop No. 8, at the center of E. 1/2 of S. W. 1/4 of Section 5, 15-15, was installed in 1958.

Alamo River Drop No. 9, in the S. E. 1/4 of N. E. 1/4, of Section 20, 15-15, was installed in 1958.

Alamo River Drop No. 10, on the west line of Lot 20, Section 21, 15-15, was installed in 1958.

Alamo River Drop No. 12, in Tract 72, Section 26, 15-15, was installed in 1967.

Alamo River Drop No. 13, in the southwest corner of Tract 65, Section 36, 15-15, was installed in 1967.

LOCATION OF CONTROL DROPS IN NEW RIVER

New River Drop No. 2, in the center of Tract 139, Section 9, 13-14, was installed in 1973.

New River Drop No. 3, in the northwest corner of Tract 92, Section 21, 13-14, was installed in 1964.

New River Drop No. 4, near the west line of Lot 4, Section 32, 13-14, was installed in 1965.

IMPERIAL IRRIGATION DISTRICT

ANNUAL SUMMARY
WATER DIVERSION, TRANSPORTATION, DISTRIBUTION AND DRAINAGE
UNITED STATES AND MEXICO

YEARS OF 1980 AND 1979

WATER DIVERSION

<u>COLORADO RIVER:</u>	<u>1980</u>	<u>1979</u>	
<u>Grand Canyon:</u>			
Discharge - Year	11 556 100	8 672 300	A.F.
<u>Hoover Dam:</u>			
Reservoir Elevation - Dec. 31	1202.88	1197.97	Feet
Maximum Reservoir Elevation	1205.03	1202.80	Feet
Available Storage - Dec. 31	23 336 000	22 623 000	A.F.
Maximum Available Storage	23 653 000 (9-21)	23 324 000 (2-25)	A.F.
Loss in Storage - Year	(G) 713 000	(G) 663 000	A.F.
Daily Discharge - Maximum	35 600 (6-29)	25 900 (5-22)	C.F.S.
- Minimum	1 400 (1-14)	587 (4-15)	C.F.S.
- Mean	15 272	10 666	C.F.S.
Discharge - Year	11 086 800	7 721 700	A.F.
<u>Davis Dam:</u>			
Storage - Dec. 31	1 596 000	1 634 000	A.F.
Loss in Storage - Year	38 000	48 000	A.F.
Daily Discharge - Maximum	25 300 (6-28)	21 700 (7-2)	C.F.S.
- Minimum	1 980 (2-17)	1 880 (1-22)	C.F.S.
- Mean	15 492	11 150	C.F.S.
Discharge - Year	11 246 600	8 072 700	A.F.
<u>Parker Dam:</u>			
Storage - Dec. 31	570 500	551 700	A.F.
Loss in Storage	(G) 18 800	(G) 2 300	A.F.
Daily Discharge - Maximum	22 200 (6-23)	17 900 (7-14)	C.F.S.
- Minimum	2 210 (1-5)	1 690 (12-22)	C.F.S.
- Mean	14 745	9 951	C.F.S.
Discharge - Year	10 704 000	7 204 200	A.F.
<u>Imperial Dam:</u>			
Diversions - All-American Canal	7 694 790	5 185 604	A.F.
- Gila Main	713 940	673 660	A.F.
Passing Imperial Dam	1 018 700	264 850	A.F.
Discharge - Year	9 427 430	6 124 114	A.F.
<u>Yuma - Below Yuma Main Spill:</u>			
Daily Discharge - Maximum	6 570 (5-2)	3 210 (4-27)	C.F.S.
- Minimum	1 020 (2-11)	510 (1-1)	C.F.S.
- Mean	4 103	2 337	C.F.S.
Discharge - Year	2 978 300	1 691 610	A.F.
<u>Morelos Dam:</u>			
Diversions to Alamo Canal	2 735 390	2 044 289	A.F.

(G) Gain

WATER TRANSPORTATION

	<u>1980</u>	<u>1979</u>	
<u>All-American Canal:</u>			
*Received at Head	7 694 790	5 185 604	A.F.
*Diversions above Siphon Drop	70 789	68 469	A.F.
*Diversions at Siphon Drop	336 945	352 602	A.F.
<u>Pilot Knob Power Plant:</u>			
*Y.C.W.U.A. Transfer	1 022 300	754 557	A.F.
*Imperial Irrigation District	2 810 587	559 072	A.F.
*Total Diversion to Power Plant	3 833 066	1 313 701	A.F.
*Diversion to Pilot Knob Spillway	179	72	A.F.
<u>Discharge Below Pilot Knob:</u>			
For C.V.W.D.	526 255	523 385	A.F.
For Imperial Irrigation District	2 817 121	2 843 730	A.F.
Total	3 343 376	3 367 115	A.F.
Loss - Imperial Dam to Pilot Knob	110 614	83 717	A.F.
<u>Loss - Pilot Knob to Drop No. 1:</u>			
For C.V.W.D.	9 701	8 090	A.F.
For Imperial Irrigation District	47 626	40 564	A.F.
Total	57 327	48 654	A.F.
Diversion to Coachella Canal	516 554	515 295	A.F.
Discharge below Drop No. 1	2 769 495	2 803 166	A.F.
Daily Discharge below Drop No. 1			
- Maximum	6 331 (4-18)	6 225 (4-27)	C.F.
- Minimum	300 (2-21)	450 (1-18)	C.F.
- Mean	3 815	3 872	C.F.
Diversions above E.H.L. Check	1 183 510	1 209 924	A.F.
Discharge below E.H.L. Check	1 551 994	1 585 407	A.F.
Loss - Drop No. 1 to E.H.L. Check	33 991	7 835	A.F.
Diversions E.H.L. to W.S.M. Check	1 522 040	1 573 155	A.F.
Loss - E.H.L. to W.S.M. Check	29 954	12 252	A.F.
Loss - Pilot Knob to W.S.M. Check	111 571	60 651	A.F.
<u>Coachella Canal:</u>			
Received at Head	516 554	515 295	A.F.
Diversion above 6-A Check	** 5 043	6 673	A.F.
Discharge below 6-A Check	** 365 114	374 323	A.F.
Loss - Drop No. 1 to 6-A Check	** 125 519	134 299	A.F.

*Daily report from All-American Canal, River Division

**Only 11 months of record. Discontinued use of 6-A Check as of November 11, 1980.

WATER DISTRIBUTION

UNITED STATES:

1. Main All-American Canal:

Division	Net Received		A C R E F E E T			Deliveries To Users			Canal Loss and Unaccounted for	
			Operational Loss							
	1980	A	1980	B	1979	1980	C	1979	1980	D
East Mesa	5 109	8 488				5 109	8 474			
Holtville	553 756	548 304	40	20		525 110	522 418	28 606	25 8	
Calexico & El Centro	450 053	464 780	14	54		442 274	453 532	7 765	11 1	
Imperial	408 953	427 554	20	2 773		382 753	399 553	26 180	25 2	
Brawley	423 439	430 920				391 126	399 201	32 313	31 7	
Westmorland	378 848	406 335	4 471	5 351		363 030	386 539	11 347	14 4	
Calipatria	422 871	409 948				410 293	401 139	12 578	8 8	
Total	2 643 029	2 696 329	4 545	8 198	2 519 695	2 570 856	118 789	117 2		
% of Net Received	100.00	100.00	0.17	0.30		95.33	95.35	4.50	4.	

1980

1979

2. Main Canal Operational Loss:

All-American Canal - Alamo Spillway			A.
- New River Spillway	213	90	A.
Dahlia Spillway	258	316	A.
No. 4 Spillway	2 633	1 950	A.
Dixie Spillway	141	106	A.
Vail Spillway - New River	149	101	A.
Vail Supply to Alamo - Above North End Dam	824	789	A.
Rositas - at Rose Heading	224	673	A.
East Highline at "Z" Spillway	3 246	3 380	A.
Total	7 688	7 405	A.

3. Operational Loss Recovered:

A. From Main Canals			A.
B. From Divisions - Rositas	3 588	3 754	A.
C. From Divisions - Vail	516	776	A.

WATER DISTRIBUTION (Cont.)

	1980			1979		
	Acre-Feet	% Colo. at Imp. Dam		Acre-Feet	% Colo. at Imp. Dam	
4. Discharge below Pilot Knob (I.I.D.)	2 817 121	29.88		2 843 730	46.43	
			% Disch. Below Pilot Knob			% Disch. Below Pilot Knob
5. Net Operational Loss from Divisions (Item 1B minus 3A and 3B)	441	0.02		3 668	0.13	
6. Net Operational Loss from Main Canals (Item 2)	7 688	0.27		7 405	0.26	
7. Net Deliveries from Main Canals (Item 1A minus 3A and 3B)	2 638 925	93.68		2 691 799	94.66	
8. Total Diversions from Main Canals (Item 6 plus 7)	2 646 613	93.95		2 699 204	94.92	
9. Total Canal Loss and Unaccounted for - Main Canals (Item 4 minus 8)	170 508	6.05		144 526	5.08	
10. Total Canal Loss and Unaccounted for - Entire System (Item 1D plus 9)	289 297	10.27		261 801	9.21	
11. Total Deliveries to Users (Item 1C)	2 519 695	89.44		2 570 856	90.40	
12. Delivered to I.I.D. Users - Coachella Canal	5 043	0.18		6 673	0.24	
13. Grand Total Delivered to Users - (Item 11 plus 12)	2 524 738	89.62		2 577 529	90.64	

Note: "Unaccounted for" represents, in part, water delivered through approximately 1750 service pipes which are unmeasured.

INFLOW TO SALTON SEA

	<u>1980</u>	<u>1979</u>	
<u>Alamo Channel:</u>			
*Crossing Line from Mexico	1 655	1 416	A.F
Main Canal Operational Loss	1 048	1 462	A.F
Division Operational Loss	(G) 4 052	(G) 3 891	A.F
Drainage	642 930	636 139	A.F
Metered at Outlet	641 581	635 126	A.F
<u>New River Channel:</u>			
*Crossing Line from Mexico	156 320	144 905	A.F
Main Canal Operational Loss	3 394	2 563	A.F
Division Operational Loss	22	2 208	A.F
Drainage	294 808	308 044	A.F
Metered at Outlet	454 544	457 720	A.F
<u>Direct to Sea:</u>			
Main Canal Operational Loss	3 246	3 380	A.F
Division Operational Loss	4 471	5 351	A.F
Drainage	97 374	101 396	A.F
Total	105 091	110 127	A.F
<u>Summary:</u>			
*Crossing Line from Mexico	157 975	146 321	A.F
Main Canal Operational Loss	7 688	7 405	A.F
Division Operational Loss	441	3 668	A.F
Drainage	1 035 112	1 045 579	A.F
Total to Sea	1 201 216	1 202 973	A.F

ELEVATION OF THE SALTON SEA:

December 31, 1980

-227.25

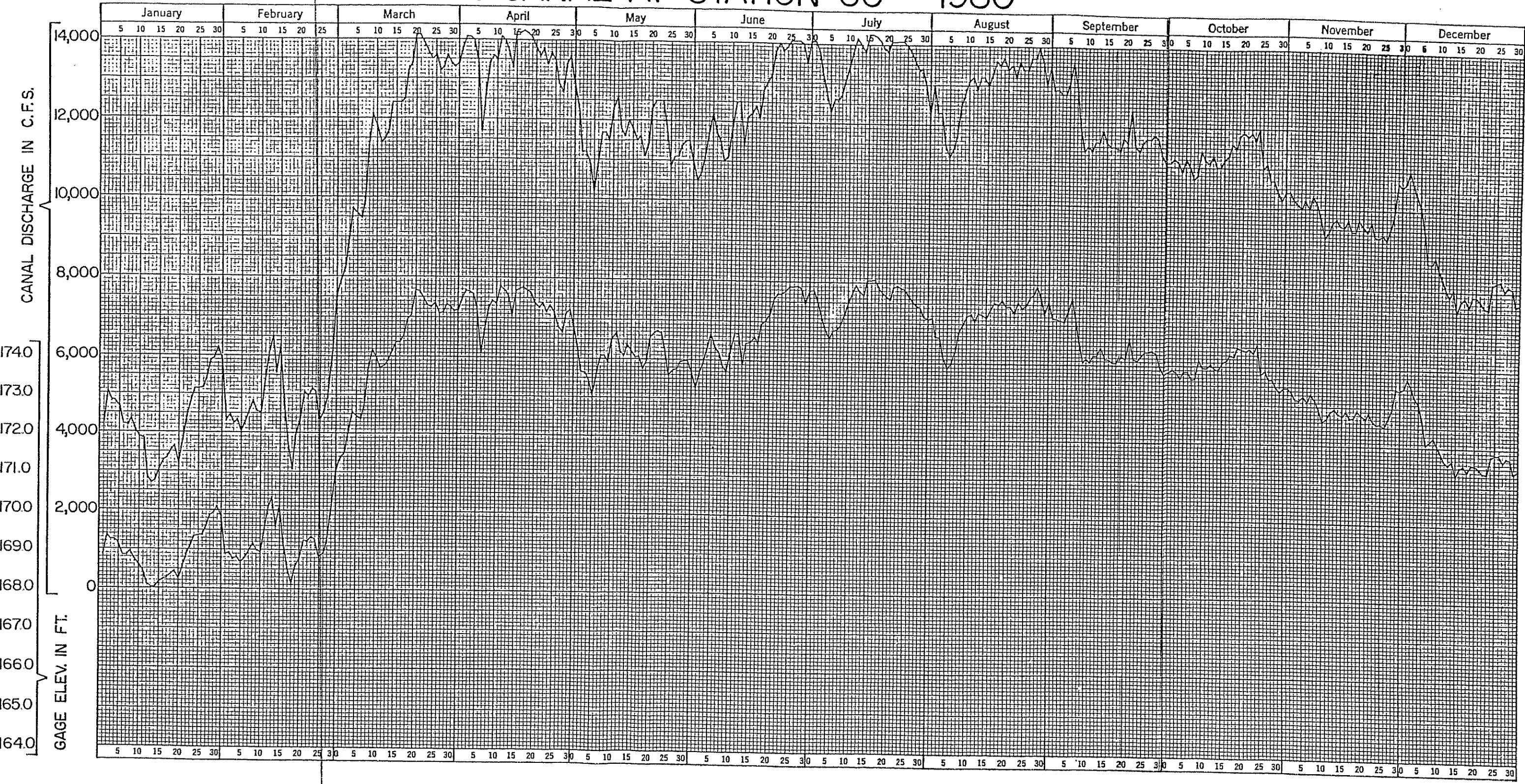
December 31, 1979

-227.75

(G) Gain

*Computed from Meter Stations at the Boundary.

ALL AMERICAN CANAL AT STATION 60 - 1980



PERCENT OF WATER RECEIVED AT PILOT KNOB CHECK
DELIVERED TO USERS - ACRE-FEET

<u>Year</u>	<u>Acre-Feet Received at Pilot Knob Check</u>	<u>Acre-Feet Delivered to Users</u>	<u>Percent Delivered to Users</u>
1965	2 688 158	2 311 966	86.01
1966	2 886 364	2 470 268	85.58
1967	2 769 592	2 365 379	85.41
1968	2 864 151	2 475 825	86.44
1969	2 714 487	2 351 578	86.63
1970	2 807 817	2 418 439	86.13
1971	2 938 783	2 534 599	86.25
1972	2 903 491	2 531 343	87.18
1973	3 008 661	2 670 313	88.75
1974	2 133 038	2 777 221	88.64
1975	3 046 890	2 703 706	88.74
1976	2 831 443	2 515 265	88.83
1977	2 717 201	2 454 750	90.34
1978	2 714 988	2 440 701	89.90
1979	2 843 730	2 570 856	90.40
1980	2 817 121	2 519 695	89.44

IMPERIAL IRRIGATION DISTRICT
ALL-AMERICAN CANAL ANNUAL DISTRIBUTION IN ACRE-FEET

	1980	1979	1978
<u>Station 60 to Drop 1</u>			
<u>Discharge Station 60</u>			
IID	2 857 346	2 893 386	2 763 773
CVWD	533 968	533 193	511 049
Yuma	1 451 310	1 192 899	957 905
Pilot Knob (IID Power)	2 852 166	566 126	269 391
Total	<u>7 694 790</u>	<u>5 185 604</u>	<u>4 502 118</u>
<u>Diversions Station 60 to 1117</u>			
Bard	70 789	68 469	62 194
Siphon Drop and Walapai	336 945	352 602	401 946
<u>Pilot Knob</u>			
YCWUA	1 022 300	754 557	479 286
IID (Power)	2 810 587	559 072	266 967
Spillway	<u>179</u>	<u>72</u>	<u>24</u>
Total to River	3 833 066	1 313 701	746 277
<u>Loss Station 60 to 1117</u>			
IID	40 225	49 656	48 785
CVWD	7 713	9 808	9 655
Yuma	21 206	17 237	14 455
Pilot Knob (IID Power)	<u>41 470</u>	<u>7 016</u>	<u>2 424</u>
Total	<u>110 614</u>	<u>83 717</u>	<u>75 319</u>
<u>Discharge Station 1117</u>			
IID	2 817 121	2 843 730	2 714 988
CVWD	526 255	523 385	501 394
Total	3 343 376	3 367 115	3 216 382
<u>Loss Station 1117 to Drop 1</u>			
IID	47 626	40 564	43 190
CVWD	9 701	8 090	8 677
Total	<u>57 327</u>	<u>48 654</u>	<u>51 867</u>

	<u>1980</u>	<u>1979</u>	<u>1978</u>
<u>Drop 1 to Westside Main</u>			
Diversion Coachella Turnout	516 554	515 295	492 717
Discharge below Drop 1	2 769 495	2 803 166	2 671 798
Diversion Drop 1 to EHL Check	1 183 510	1 209 924	1 139 552
Loss Drop 1 to EHL Check	33 991	7 835	24 407
Discharge below EHL Check	1 551 994	1 585 407	1 507 839
Diversions EHL Check to CM			
Check	830 936	847 933	811 075
Loss EHL Check to CM Check	19 740	8 130	16 343
Discharge below CM Check	701 318	729 344	680 421
Diversion to CM Check to WSM Check	691 104	725 222	674 204
Loss CM Check to WSM Check	10 214	4 122	6 217
<u>Station 60 to Westside Main</u>			
Diversion Station 60 to WSM	7 462 904	5 033 146	4 327 965
Loss Station 60 to WSM	231 886	152 458	174 153
<u>Coachella Canal</u>			
Coachella at Head	495 676	515 295	492 717
Diversion 6-A Check	5 043	6 673	4 252
Loss - Head to 6-A Check			
IID	1 997	2 436	1 656
CVWD	123 522	131 863	122 205
Total	125 519	134 299	123 861
Discharge below 6-A Check	365 114	374 323	364 604

ANNUAL STATEMENT OF DISTRIBUTION OF WATER
BY DIVISIONS - ACRE-FEET
1980

<u>Division</u>	<u>Received from Main Canals</u>	<u>Percent</u>	<u>Canal Loss and Unaccounted for</u>	<u>Percent</u>	<u>Operational Loss</u>	<u>Percent</u>	<u>Delivered to Users</u>	<u>Percent</u>
Holtville	553 756	100.00	28 606	5.17	40	0.01	525 110	94.82
El Centro-Calexico	450 053	100.00	7 765	1.73	14	0.00	442 274	98.27
Imperial	408 953	100.00	26 180	6.40	20	0.01	382 753	93.59
Brawley	423 439	100.00	32 313	7.63	-	0.00	391 126	92.37
Westmorland	378 848	100.00	11 347	3.00	4 471	1.18	363 030	95.82
Calipatria	422 871	100.00	12 578	2.97	-	0.00	410 293	97.03
Total Divisions	2 637 920	100.00	118 789	4.50	4 545	0.17	2 514 586	95.32
East Mesa (Experimental Farm)	5 109	100.00	-	0.00	-	0.00	5 109	100.00
TOTALS	2 643 029	100.00	118 789	4.50	4 545	0.17	2 519 695	95.33

Duty in Acre-Feet
Per Acre 5.48*

Note: *Water duty based on "Annual Inventory of Acres Receiving Water Service," Item "Net Area Irrigated," minus acres served from Coachella Canal

NUMBER WATER RUNS - ACRE-FEET OF WATER
DELIVERED TO USERS AND WATER SALES

<u>Year</u>	<u>No. Water Runs</u>	<u>Acre-Feet Water Delivered to Users</u>	<u>Water Sales</u>
1957	230 897	1 949 156	\$ 3 973 466
1958	228 633	1 940 882	3 925 585
1959	239 368	2 045 454	3 901 284
1960	259 369	2 178 113	4 404 057
1961	251 272	2 195 675	4 142 451
1962	253 524	2 223 991	4 455 775
1963	250 522	2 284 666	4 614 879
1964	258 100	2 398 693	4 818 068
1965	255 070	2 311 966	4 637 441
1966	252 920	2 470 268	4 945 585
1967	227 223	2 365 379	5 061 640
1968	239 036	2 475 825	5 678 158
1969	229 034	2 351 578	5 401 789
1970	231 235	2 418 439	5 539 925
1971	241 376	2 534 599	5 798 557
1972	171 375	2 531 343	5 782 168
1973	249 218	2 670 313	6 071 659
1974	250 882	2 777 221	7 393 908
1975	238 821	2 703 706	8 494 593
1976	219 724	2 515 265	9 506 431
1977	217 709	2 454 750	11 228 752
1978	200 013	2 440 701	11 663 741
1979	208 620	2 570 856	13 176 853
1980	202 175	2 519 695	15 256 800

<u>Town or City</u>	<u>1980 Water Delivered Acre-Feet</u>	<u>1980 Population</u>
Calexico	4 380.0	14 545
Holtville	1 599.6	4 355
El Centro	6 806.8	24 015
Imperial	1 834.2	3 440
Brawley	9 052.0	14 753
Westmorland	1 124.0	1 572
Calipatria	1 212.0	2 586
Niland	497.2	975
Seeley	330.0	1 010
Heber	<u>334.0</u>	<u>2 300</u>
Totals	27 169.8	69 551

Population figures from Imperial Irrigation District's Community and Special Services Section, January, 1981. Official Preliminary 1980 Census Results from County Planner.

Year	AAC Below Drop No. 1	Delivered to Users	Salton Sea From IID*	TOTAL INFLOW TO SALTON SEA		Inflow to Salton Sea From Mexico	Total Inflow to Salton Sea From IID & Mexico	Inflow to Salton Sea from Coachella	Total Inflow to Salton Sea
				ACRE-FEET	ACRE-FEET				
1966	2 817 912	2 470 268	1 004 685	104 503	1 109 188	<u>1</u> / 130 760	<u>1</u> / 1239 948		
1967	2 719 861	2 365 379	1 027 970	98 455	1 126 425	<u>1</u> / 128 950	<u>1</u> / 255 375		
1968	2 806 124	2 475 825	1 001 027	107 488	1 108 515	<u>1</u> / 135 670	<u>1</u> / 244 185		
1969	2 675 833	2 351 578	962 639	104 907	1 067 546	<u>1</u> / 141 780	<u>1</u> / 209 326		
1970	2 754 898	2 418 439	1 020 503	101 316	1 121 819	<u>1</u> / 129 720	<u>1</u> / 251 539		
1971	2 883 960	2 534 599	1 092 571	108 791	1 201 362	<u>1</u> / 138 060	<u>1</u> / 339 422		
1972	2 846 613	2 531 343	1 063 537	112 600	1 176 137	<u>1</u> / 148 020	<u>1</u> / 324 157		
1973	2 956 013	2 670 313	1 065 414	118 530	1 183 944	<u>1</u> / 156 080	<u>1</u> / 340 024		
1974	3 072 327	2 777 221	1 123 492	113 066	1 236 558	<u>1</u> / 151 680	<u>1</u> / 388 238		
1975	3 001 207	2 703 706	1 128 268	101 359	1 229 627	<u>1</u> / 172 400	<u>1</u> / 402 027		
1976	2 783 630	2 515 265	1 084 993	103 959	1 188 952	<u>1</u> / 189 820	<u>1</u> / 378 772		
1977	2 693 030	2 454 750	1 020 797	109 132	1 129 929	<u>1</u> / 162 666	<u>1</u> / 292 595		
1978	2 671 798	2 440 701	995 674	99 704	1 095 378	<u>1</u> / 149 788	<u>1</u> / 245 166		
1979	2 803 166	1 5970 856	1 056 652	146 321	1 202 973	<u>2</u> / 151 002	<u>1</u> / 353 975		
1980	2 769 495	2 519 695	1 043 241	157 975	1 201 216	<u>2</u> / 143 958	<u>1</u> / 345 174		

*Includes storm runoff
1/ Revised to conform to USGS Water Resources Data of California
2/ Preliminary data from CWWD

ALL-AMERICAN CANAL BELOW DROP NO. 1 AND ANNUAL INFLOW TO SALTON SEA
IN ACRE-FEET

YEAR	ALL AMERICAN CANAL BELOW DROP NO. 1	INFLOW TO SALTON SEA				% OF TOTAL TO SALTON SEA	TOTAL TO SALTON SEA
		I.I.D. PORTION	DROP NO. 1	FROM MEXICO	% OF TOTAL TO SALTON SEA		
1948	2 699 314	1 007 304	37.32	47 647	4.52		
1949	2 761 992	1 086 129	39.32	44 037	3.90		
1950	2 938 666	1 104 800	37.60	38 385	3.36	1 143 185	1 130 166
1951	3 066 618	1 169 427	38.13	36 893	3.06	1 206 320	1 206 320
1952	3 203 411	1 260 573	39.35	37 167	2.86	1 297 740	1 297 740
1953	3 353 244	1 345 998	40.14	32 424	2.35	1 378 422	1 378 422
1954	3 095 783	1 273 210	41.13	30 936	2.37	1 304 146	1 304 146
1955	2 927 165	1 069 809	36.55	48 900	4.37	1 118 709	1 118 709
1956	2 906 746	1 091 804	37.56	78 174	6.68	1 169 978	1 169 978
1957	2 781 792	1 011 379	36.36	72 607	6.70	1 083 986	1 083 986
1958	2 730 876	974 045	35.67	105 974	9.81	1 080 019	1 080 019
1959	2 840 173	1 020 963	35.95	123 643	10.80	1 144 606	1 144 606
1960	2 983 860	1 059 804	35.52	123 233	10.42	1 183 037	1 183 037
1961	2 957 200	1 050 700	35.53	116 826	10.01	1 167 526	1 167 526
1962	2 951 266	1 088 965	36.90	133 884	10.95	1 222 849	1 222 849
1963	2 991 429	1 153 827	38.57	141 064	10.89	1 294 891	1 294 891
1964	2 770 474	905 153	32.67	106 921	10.56	1 012 074	1 012 074
1965	2 624 363	882 962	33.64	113 137	11.36	996 099	996 099
1966	2 817 912	1 004 685	35.65	104 503	9.42		
1967	2 719 861	1 027 970	37.79	98 455	8.74	1 126 425	1 126 425
1968	2 806 124	1 001 027	35.67	107 488	9.70	1 108 515	1 108 515
1969	2 675 833	962 639	35.98	104 907	9.83	1 067 546	1 067 546
1970	2 754 898	1 020 503	37.04	101 316	9.03	1 121 819	1 121 819
1971	2 883 960	1 092 571	37.88	108 791	9.06	1 201 362	1 201 362
1972	2 846 613	1 063 537	37.36	112 600	9.57	1 176 137	1 176 137
1973	2 956 013	1 065 414	36.04	118 530	10.01	1 183 944	1 183 944
1974	3 072 327	1 123 492	36.57	113 066	9.14	1 236 558	1 236 558
1975	3 001 207	1 128 268	37.59	101 359	8.24	1 229 627	1 229 627
1976	2 783 630	1 084 993	38.98	103 959	8.74	1 188 952	1 188 952
1977	2 693 030	1 020 797	37.91	109 132	9.66	1 129 929	1 129 929
1978	2 671 798	995 674	37.27	99 704	9.10	1 095 378	1 095 378
1979	2 803 166	1 056 652	37.70	146 321	12.16	1 202 973	1 202 973
1980	2 769 495	1 043 241	37.67	157 975	13.15	1 201 216	1 201 216

INFLOW TO SALTON SEA - I.I.D. PORTION
Percent of Drop No. 1

	<u>1966</u>	<u>1967</u>	<u>1968</u>	<u>1969</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>
January	56.4	48.6	42.6	58.4	45.5	49.0	50.1	48.0	60.6	49.9	46.9	49.0	85.9	79.6	56.7
February	40.4	40.0	42.0	41.8	44.3	44.7	46.3	51.5	39.1	43.5	55.8	37.9	38.0	43.9	70.9
March	37.6	36.0	39.7	36.7	40.4	40.7	36.1	37.1	39.3	38.5	36.5	34.3	36.9	38.2	38.0
April	31.5	36.9	34.3	33.6	36.0	34.6	33.9	34.4	33.6	37.8	38.3	34.0	35.2	34.9	36.6
May	30.8	33.1	32.0	32.0	33.8	34.9	32.5	33.7	33.7	35.2	36.2	34.4	35.1	36.3	36.9
June	28.8	29.7	28.5	29.5	31.0	31.7	30.6	30.8	31.4	33.9	30.7	29.6	29.2	29.6	31.0
July	28.7	29.1	31.0	28.1	36.2	29.4	28.0	27.0	29.8	30.4	28.7	26.8	28.3	30.4	28.9
August	29.4	40.5	29.1	28.6	30.4	34.1	29.1	28.5	29.8	29.9	27.5	60.9	29.9	33.2	30.7
September	37.2	44.5	36.3	37.2	34.3	38.7	36.1	33.0	36.5	38.5	58.7	36.3	36.1	35.8	34.5
October	46.9	43.9	41.5	41.1	40.8	44.5	57.8	40.0	43.1	42.1	44.4	43.1	48.1	42.5	40.7
November	49.2	56.0	43.5	56.8	47.6	45.8	51.6	45.1	48.5	46.9	57.1	45.6	51.4	47.7	48.9
December	43.4	74.9	46.0	43.2	47.1	47.8	46.9	59.2	51.3	49.5	49.0	52.1	65.4	48.7	47.1
Yearly Average	35.8	38.1	36.2	36.4	37.3	38.6	37.7	36.7	37.0	38.4	39.3	38.1	37.5	37.9	37.9

SUMMARY OF SALT BALANCE
EXCLUDING WATER AND SALT FROM MEXICO

Year	INFLUENT 1/						EFFLUENT				Tons Salt Diff.	Percent Loss or Gain
	Total A.F.	Tons of Salt Brought Into the Area	Weighted T.A.F. p.p.m.	Average 2/ T.A.F. p.p.m.	Total A.F.	Discharge A.F.	Tons of Salt Removed	Average 2/ T.A.F. p.p.m.				
1958	2 730 876	2 723 153	1.00	735	974 045	3 341 376	3.43	2 521	22.70 gain	618 223		
1959	2 840 173	2 852 019	1.00	735	1 020 963	3 401 652	3.33	2 448	549 633	19.27 gain		
1960	2 983 860	3 162 485	1.06	779	1 059 804	3 558 534	3.36	2 470	396 049	12.52 gain		
1961	2 957 200	3 330 087	1.13	831	1 050 700	3 572 808	3.40	2 499	242 721	7.29 gain		
1962	2 951 266	3 399 464	1.15	845	1 088 965	3 806 946	3.50	2 573	407 482	11.99 gain		
1963	2 991 429	3 378 583	1.13	831	1 153 827	4 050 087	3.51	2 580	671 504	19.88 gain		
1964	2 770 474	3 284 284	1.19	875	905 153	3 635 121	4.02	2 955	350 837	10.68 gain		
1965	2 624 363	3 406 457	1.30	955	882 962	3 819 255	4.33	3 183	412 798	12.12 gain		
1966	2 817 912	3 650 447	1.30	955	1 004 685	4 148 874	4.13	3 036	498 427	13.65 gain		
1967	2 719 861	3 306 261	1.22	897	1 027 970	4 139 477	4.03	2 962	833 216	25.20 gain		
1968	2 806 124	3 408 548	1.21	889	1 001 027	4 012 009	4.01	2 947	603 461	17.70 gain		
1969	2 675 833	3 396 105	1.27	933	962 639	3 754 477	3.90	2 867	358 372	10.55 gain		
1970	2 754 898	3 488 023	1.27	933	1 020 503	3 780 732	3.70	2 719	292 709	8.39 gain		
1971	2 883 969	3 666 277	1.27	933	1 092 571	3 900 990	3.57	2 624	234 713	6.40 gain		
1972	2 846 613	3 541 248	1.24	911	1 063 537	3 886 592	3.65	2 683	345 344	9.75 gain		
1973*	2 956 013	3 492 199	1.18	867	1 065 414	3 980 338	3.74	2 749	488 139	13.98 gain		
1974*	3 072 327	3 669 832	1.19	875	1 123 492	4 204 158	3.74	2 749	534 326	14.56 gain		
1975*	3 001 207	3 581 043	1.19	875	1 128 268	4 196 407	3.72	2 734	615 364	17.18 gain		
1976*	2 783 630	3 263 454	1.17	860	1 084 993	4 361 658	4.02	2 955	1 098 204	33.68 gain		
1977*	2 693 030	3 039 155	1.13	831	1 020 797	4 187 227	4.10	3 014	1 148 072	37.78 gain		
1978*	2 671 798	2 897 906	1.08	797	995 674	3 824 323	3.84	2 823	926 417	31.97 gain		
1979*	2 803 166	3 216 228	1.15	843	1 056 652	3 998 131	3.78	2 781	781 903	24.31 gain		
1980*	2 769 495	3 058 785	1.10	812	1 043 241	3 988 611	3.82	2 810	929 826	30.40 gain		

Note: Part of the water in Alamo River from Mexico was used for irrigation in U.S. prior to January 4, 1958.

1/ Based on weekly samples at All-American Canal Station 2963 (East Highline Check) 1958 through 1972
 2/ p.p.m. = 735 x T.A.F.

Prior to January 1, 1970, all salt concentrations were obtained by evaporation and drying at 105° C.
 Subsequent to January 1, 1970, concentrations were obtained by drying at 180° C.

*Based on weekly samples at All-American Canal below Drop 1

SALINITY - SALTON SEA

Year	Total Dissolved*		Total Dissolved*		Year	Total Dissolved*		Total Dissolved*	
	Solids P.P.M.	t.a.f.	Solids P.P.M.	t.a.f.		Solids P.P.M.	t.a.f.	Solids t.a.f.	t.a.f.
1955	33	451	45	49	1968	38	540	52	41
1956	34	113	46	39	1969	40	009	54	41
1957	34	573	47	02	1970	38	583	52	47
1958	35	769	48	65	1971	39	150	53	24
1959	35	749	48	62	1972	39	013	53	06
1960	35	366	48	10	1973	39	186	53	29
1961	35	303	48	01	1974	39	183	53	29
1962	35	122	47	77	1975	38	973	53	00
1963	35	998	48	96	1976	38	528	52	40
1964	36	727	49	95	1977	38	461	52	31
1965	36	835	50	10	1978	38	141	51	87
1966	36	339	49	42	1979	38	423	52	26
1967	38	120	51	84	1980	37	616	51	16

* Average of total parts per million of samples taken at Bertram Station, Desert Ranch, Sandy Beach, and Salton Sea Beach for each respective year.

** p.p.m. x .00136 = T.A.F.

Note: Sample taken between the Alamo and New Rivers has been excluded due to possible influence of fresh water from rivers on salinity determination of the Sea.

All samples are surface samples taken in May and November of each year.

Parts per million were determined by evaporation, dried at 105° C. prior to January 1, 1970, and dried at 180° C. subsequent to January 1, 1970.

COMPLETE ANALYSES SALTON SEA
(Surface Samples)
1980

Date of Sample		Sandy Beach		Desert Beach		Salton Sea Beach		Bertram Station		Between Alamo & New River Outlets		
		5-5-80	11-10-80	5-5-80	11-10-80	5-5-80	11-10-80	5-5-80	11-10-80	5-5-80	11-10-80	
<u>CATIONS</u>												
CA		ppm	932	1 002	982	1 022	987	1 032	975	1 075	905	995
		epm	46.50	50.00	49.00	51.00	49.25	51.50	48.67	53.67	45.17	49.67
		% epm	8	8	8	8	8	8	8	9	8	9
Mg		ppm	1 186	1 171	1 161	1 139	1 165	1 153	1 123	1 103	1 074	1 009
		epm	97.50	96.33	95.50	93.67	95.77	94.83	92.33	90.67	88.33	83.00
		% epm	16	15	16	15	16	15	16	14	15	14
Na + K		ppm	10 682	10 964	10 419	10 892	10 636	10 977	10 369	10 936	10 383	10 155
		epm	464.49	476.76	453.06	473.64	462.51	477.35	450.90	475.52	451.48	441.56
		% epm	76	77	76	77	76	77	76	77	77	77
<u>ANIONS</u>												
HCO ₃ +CO ₃		ppm	176	188	182	188	167	189	167	194	139	215
		epm	2.88	3.08	2.99	3.08	2.74	3.10	2.74	3.18	2.27	3.52
		% epm	1	1	1	1	1	1	1	1	0	1
Cl		ppm	15 837	16 249	15 431	16 067	15 824	16 249	15 249	16 128	15 097	14 491
		epm	446.65	458.28	435.19	453.15	446.31	458.28	430.06	454.86	425.79	408.69
		% epm	73	73	73	73	73	73	73	73	73	71
SO ₄		ppm	7 635	7 768	6 755	7 785	7 612	7 795	7 642	7 772	7 537	7 782
		epm	158.96	161.73	159.38	162.08	158.48	162.30	159.10	161.82	156.92	162.02
		% epm	26	26	26	26	26	26	26	26	27	28
Total		epm	1 216.98	1 246.18	1 195.12	1 236.62	1 215.06	1 247.36	1 183.80	1 239.72	1 169.96	1 148.46
T.D.S*		ppm	37 344	38 492	36 944	37 804	37 680	37 916	36 644	38 100	34 920	37 020
K _x 10 ⁶ at 25°C	t.a.f.		50.79	52.35	50.24	51.41	51.24	51.57	49.84	51.82	47.49	50.35
ph			52 210	51 010	52 210	51 019	52 210	51 010	52 210	51 010	52 210	51 010
			7	8.2	6.8	7.9	7	8.1	7	8	7.4	7.6

*By evaporation

Imperial Irrigation District
Salton Sea
Summary of Observations at Evaporation Stations
1980

Year	Sandy Beach						Devil's Hole						Salt Farm						Meas. Avg.
	Mean Temp.		Mean Avg. Temp.	Total Wind Miles	Rain Total Inches	Pan Evap. Inches	Mean Temp.		Mean Avg. Temp.	Total Wind Miles	Rain Total Inches	Pan Evap. Inches	Mean Temp.		Mean Avg. Temp.	Total Wind Miles	Rain Total Inches	Pan Evap. Inches	
	Max.	Min.					Max.	Min.					Max.	Min.					
Jan.	70.7	51.1	60.9	1807.6	1.14	3.55	67.6	45.3	56.5	1338.6	1.02	3.72	70.6	47.9	59.3	2097.0	0.89	3.08	3.45
Feb.	73.7	51.3	62.5	1871.3	2.47	4.52	72.9	46.5	59.7	1498.8	3.11	5.77	73.4	48.8	61.1	1842.0	2.36	3.96	4.75
March	74.2	52.3	63.3	3092.5	0.83	7.62	74.9	47.6	61.3	1856.9	0.68	6.48	72.2	47.0	59.6	2636.5	0.76	5.59	6.56
April	82.0	55.5	68.8	2001.6	0.00	9.75	83.6	52.5	68.1	1687.6	0.00	8.31	85.0	51.3	68.2	2365.5	0.00	8.33	8.80
May	86.6	62.6	74.6	*	0.00	14.12	86.8	58.7	72.8	3038.7	0.00	11.98	87.4	59.7	73.6	3235.6	0.00	10.76	12.29
June	102.2	74.6	88.4	*	0.00	15.99	98.2	62.5	80.4	1876.8	0.00	11.86	102.2	65.0	83.6	2175.6	0.00	11.59	13.15
July	107.1	81.6	94.4	219.0	0.00	14.53	104.5	77.6	91.1	1964.8	0.00	12.39	108.9	79.6	94.3	2402.3	0.00	13.09	13.34
Aug.	102.7	76.8	89.8	321.7	0.00	16.64	101.7	73.8	87.8	2064.1	0.00	12.22	105.7	75.8	90.8	2414.0	0.00	13.68	14.18
Sept.	100.7	71.9	86.3	213.7	0.00	11.58	98.5	67.2	82.9	1553.7	0.00	8.96	101.7	69.5	85.6	1751.8	0.00	10.19	10.24
Oct.	90.4	63.5	77.0	219.6	0.00	9.70	88.8	58.3	73.6	1175.2	0.00	6.64	89.8	59.7	74.8	1918.5	0.00	7.90	8.08
Nov.	76.2	50.3	63.3	144.3	0.00	5.82	75.6	43.6	59.6	998.1	0.00	4.46	77.7	46.2	62.0	1747.7	0.00	6.01	5.43
Dec.	72.0	46.2	59.1	107.2	0.00	4.38	69.5	42.2	55.9	500.4	0.00	3.47	72.8	43.8	58.3	1257.3	0.00	4.03	3.96
Totals	1038.5	737.7	888.4	9998.5	4.44	118.20	1022.6	675.8	849.7	19533.7	4.81	96.26	1047.4	694.3	871.2	25843.8	4.01	98.21	104.23
Mean	86.5	61.5	74.0	999.9	----	9.85	85.2	56.3	70.8	1629.5	----	8.02	87.3	57.9	72.6	2153.7	---	8.18	8.69

Note: Tabulated evaporation is that observed in the pan and has not been corrected for pan factor or salinity.

Evaporation measured from 2-foot diameter x 3-foot deep buried screen pan - 1/4-inch mesh screen.

*Anemometer broken

NET INFLOW TO SALTON SEA
1980

Date	Measured Pan Evaporation		Sea Evaporation	IID Inflow To Sea	Total Inflow To Sea	Difference Inflow-Evap.
	(1)	(2)	(3)	(4)	(5)	(6)
	Inches	Feet	Acre-Feet	Acre-Feet	Acre-Feet	Acre-Feet
Jan.	3.45	0.29	44 900	78 200	83 000	+ 38 100
Feb.	4.75	0.40	61 800	69 900	74 200	+ 12 400
March	6.56	0.55	85 300	113 500	120 400	+ 35 100
April	8.80	0.73	114 400	137 500	145 900	+ 31 500
May	12.29	1.03	159 800	109 800	116 500	- 43 300
June	13.15	1.10	170 900	92 500	98 100	- 72 800
July	13.34	1.11	173 400	102 200	108 400	- 65 000
August	14.18	1.18	184 300	113 900	120 900	- 63 400
Sept.	10.24	0.85	133 100	112 100	118 900	- 14 200
Oct.	8.08	0.67	105 000	104 300	110 700	+ 5 700
Nov.	5.43	0.45	70 600	86 700	92 000	+ 21 400
Dec.	3.96	0.33	51 500	80 600	85 500	+ 34 000
TOTAL	104.23	8.69	1 355 000	1 201 200	1 274 500	- 80 500

(3)=(2)x:0.65 (pan factor) x 220,000 Ac. (Sea surface area)

(5)=(4)x 1.061 (estimated factor to include Coachella Area inflow to Sea)

Note: Pan evaporation in feet was carried to 4 decimal places in calculating sea evaporation (Column 3)
Acre-feet rounded to the nearest 100

SALTON SEA EVAPORATION
Screened Evaporation Pans

(Averages for 3 Weather Stations)

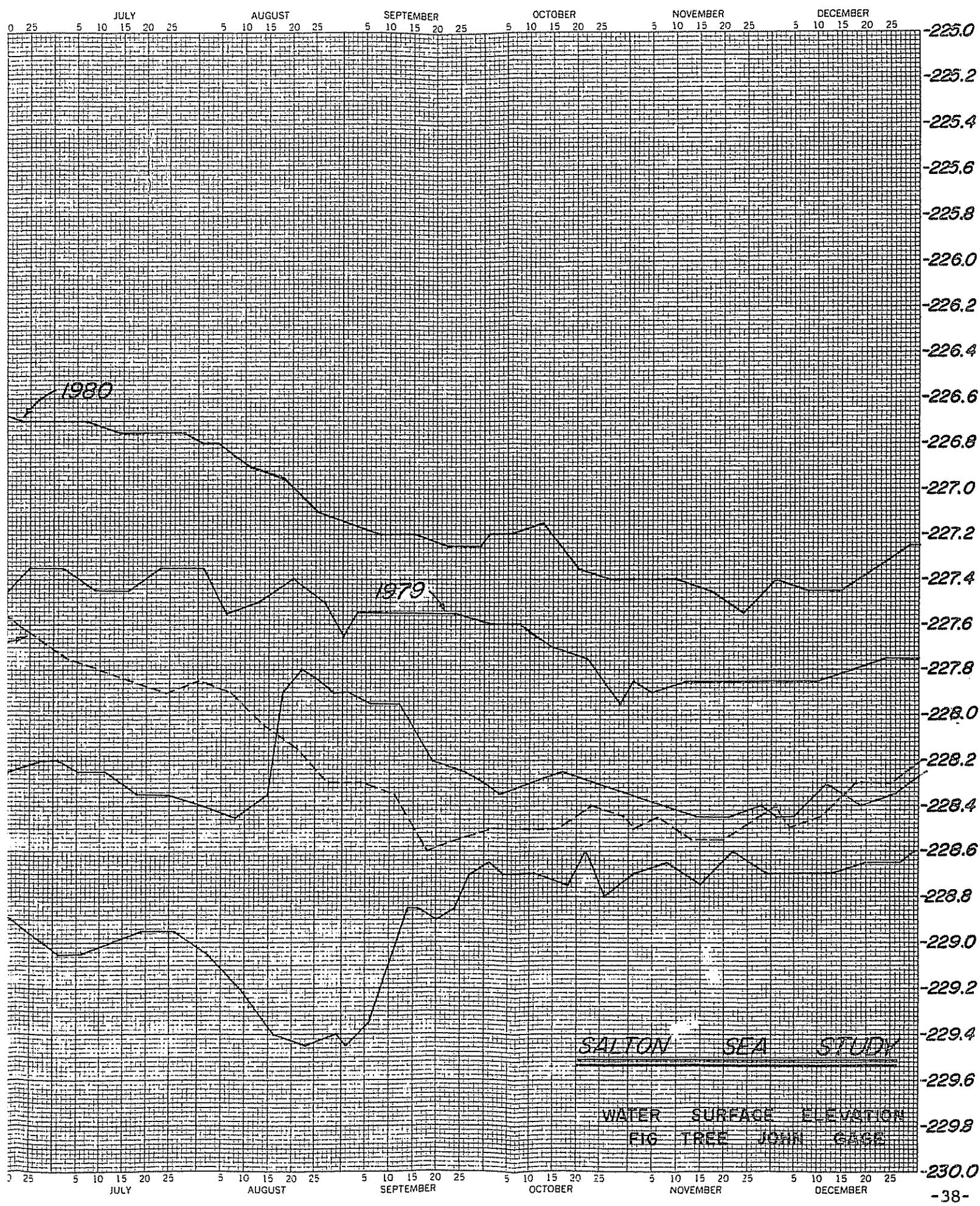
Reported Actual Evaporation in Feet^{1/}

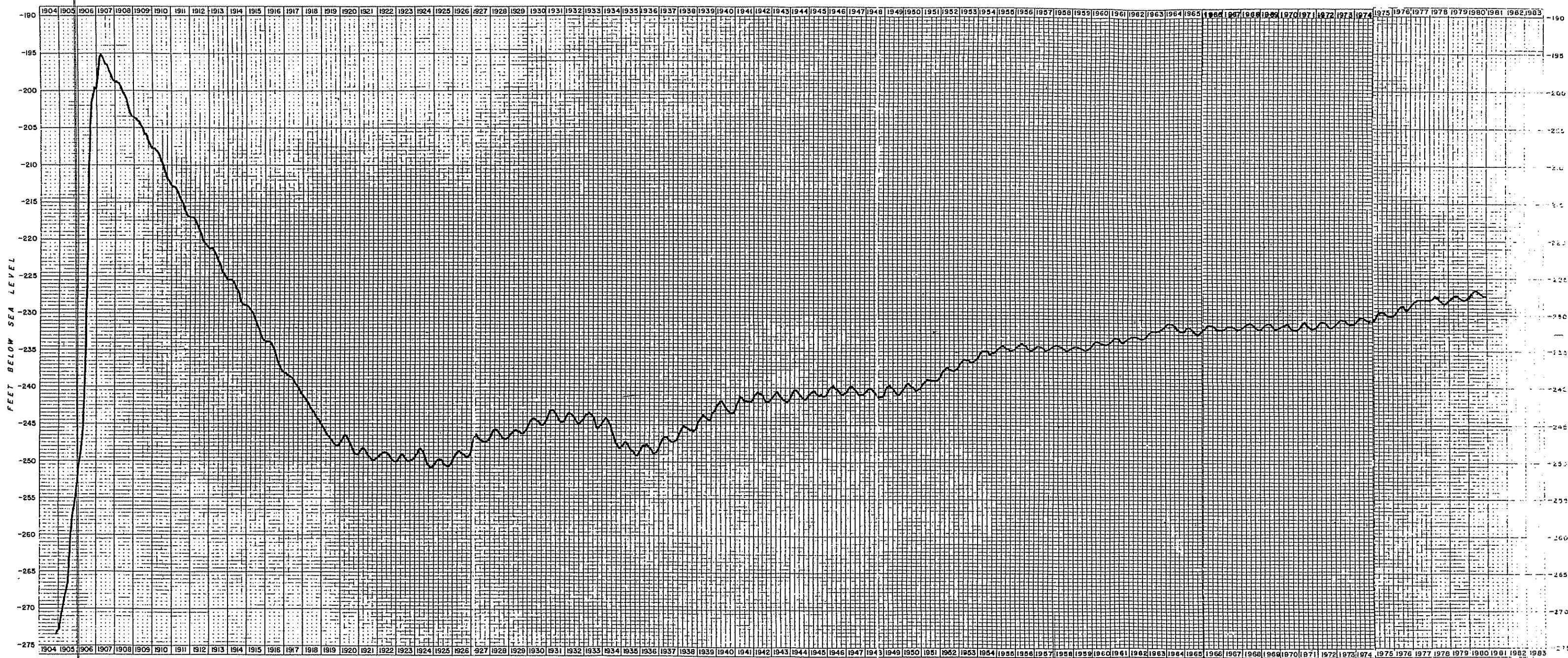
	<u>25-Yr. Avg.</u>	<u>1979</u>	<u>1980</u>	<u>1980 Difference</u>	
	<u>1954-1978</u>			<u>From Avg.</u>	<u>From 1979</u>
January	0.28	0.27	0.29	+ 0.01	+ 0.02
February	0.36	0.35	0.40	+ 0.04	+ 0.05
March	0.59	0.56	0.55	- 0.04	- 0.01
April	0.80	0.90	0.73	- 0.07	- 0.17
May	0.99	1.14	1.03	+ 0.04	- 0.11
June	1.07	1.16	1.10	+ 0.03	- 0.06
July	1.07	1.24	1.11	+ 0.04	- 0.13
August	1.05	1.12	1.18	+ 0.13	+ 0.06
September	0.87	1.02	0.85	- 0.02	- 0.17
October	0.65	0.83	0.67	+ 0.02	- 0.16
November	0.42	0.47	0.45	+ 0.03	- 0.02
December	0.31	0.36	0.33	+ 0.02	- 0.03

1/ Observed pan evaporation plus rainfall

ELEVATION OF SALTON SEA IN FEET BELOW SEA LEVEL
(Near Fig Tree John Spring, Section 23, T. 8 S., R. 9 E.)

<u>Year</u>	<u>Elevation End of Year</u>	<u>Year</u>	<u>Elevation End of Year</u>
1931	244.20	1956	234.50
1932	244.00	1957	234.45
1933	244.60	1958	234.60
1934	247.80	1959	234.30
1935	248.30	1960	233.75
1936	247.70	1961	233.35
1937	246.40	1962	232.65
1938	244.70	1963	231.20
1939	242.20	1964	231.85
1940	242.50	1965	232.00
1941	241.00	1966	231.95
1942	241.30	1967	231.75
1943	241.05	1968	231.80
1944	240.80	1969	231.95
1945	240.35	1970	231.90
1946	240.45	1971	231.65
1947	240.45	1972	231.30
1948	240.75	1973	231.15
1949	240.20	1974	230.65
1950	239.60	1975	230.05
1951	238.30	1976	228.60
1952	236.60	1977	228.25
1953	235.75	1978	228.20
1954	234.75	1979	227.75
1955	234.35	1980	227.25





WATER SURFACE ELEVATION — SALTON SEA

SUMMARY OF STRUCTURES INSTALLED OR REPLACED

	<u>1980</u>	<u>1979</u>
Tile Sumps Installed (Total in system 495)	11	10
*County Road Crossings installed or replaced	16	21
Railroad crossings installed	-	-
State Highway crossings installed	-	3
New deliveries installed	17	11
New checks installed	9	3
New siphons installed	1	3
New control structures installed	13	1
New storm spillways installed	1	-
New maintenance crossings installed	2	-
New spillways installed	-	-
New bridges installed	2	-
New moss pipes installed	-	1
New outlets installed	1	-
New headwalls installed	-	-
New waste pipes installed	2	1
Deliveries replaced	17	14
Checks replaced	6	12
Bridges replaced	-	-
Siphons replaced	1	5
Control structures replaced	4	5
Moss pipes replaced	1	-
Spillways replaced	-	-
Waste pipes replaced	16	5
Miles of open drains replaced with pipeline and pipeline drains installed	2.13	1.12
Miles of canals concrete lined, landowner's participation and District's continued operation & maintenance	21.25	21.79
Miles of canals concrete lined, total IID cost	.11	-

*The County Board of Supervisors and the District Board of Directors entered into a cooperative agreement in 1947, for replacement of canal or drain crossings under County roads with concrete siphons. Under the terms of this agreement the District pays installation costs and the County of Imperial pays material costs.

WATER CONSERVATION

The J. M. Sheldon Water Conservation Reservoir is a 500-acre-foot regulation reservoir, constructed on a 60-acre site in portion of Tracts 214 and 308, 14-13, on the Westside Main Canal. This reservoir received water from the Westside Main Canal that would normally be surplus and stores it for beneficial use below No. 8 Heading when required. This reservoir was constructed and put into operation in 1977. A total of 10,157 acre-feet was diverted to the reservoir and 9,651 acre-feet was released in 1980.

The Kakoo Singh Reservoir, a 300-acre-foot regulation reservoir, constructed on a 40-acre site adjacent to the East Highline Canal, near the Vail Supply Heading, and above the Nectarine Check to store water from the East Highline Canal and release to the Vail Supply Canal as needed, was constructed and put into operation in 1976. A total of 15,619 acre-feet was diverted to this reservoir and 15,244 acre-feet was released in 1980.

The thirteen-point program approved by the Board of Directors on June 29, 1976, to obtain the most beneficial use of water continued during 1980, with the two most effective items being the water conservation reservoirs and personnel checking surface field discharge. A total of 39,534 heads of water were checked. Of the 39,534 heads checked, there were 8,296 heads wasting 15 percent, or more of the water delivered, and after the second check there were 2,930 of the orders assessed.

After a one-year study, the Water Conservation Advisory Board (a committee of Valley water users) adopted a 21-point water conservation program which was adopted by the Imperial Irrigation District Board of Directors. This program became the official water conservation program for the Imperial Irrigation District effective July 1, 1980.

The District and the U.S. Department of Agriculture, Imperial Valley Research Center, Brawley, continued the cooperative project for a study to evaluate on-farm irrigation efficiency under conventional soil and water management and the effect and applicability of new soil and water management practices designed to improve on-farm irrigation efficiency.

SURFACE DRAINAGE PUMPS

The Imperial Irrigation District Board of Directors by Board Action June 13, 1979, authorized the staff to commence program to design, procure and install sumps and pumps where required to remove irrigation waste water from certain properties, where due to the continuing rise of the Salton Sea makes it impossible to provide gravity outlets to certain properties adjacent to the Salton Sea. In accordance with this Board Action, 19 service drainage pumps were installed as follows: WP-1, with discharge into Salton Sea; WP-2, with discharge into Salton Sea; WP-3, with discharge into Salton Sea; WP-4, with discharge into Salton Sea; WP-5, with discharge into Trifolium 19 Drain, WP-7, with discharge into Trifolium 12 Spill; WP-7, with discharge into Salton Sea; WP-8, with discharge into Vail Cutoff Drain; WP-9, with discharge into Salton Sea; WP-10, with discharge into Salton Sea; WP-12-A, with discharge into Salton Sea; WP-13, with discharge into Vail 5-A Drain; WP-15, with discharge into Vail 4-A Drain; WP-16, with dis-

charge into Salton Sea; WP-17, with discharge into Pumice Drain; WP-18, with discharge into Pumice Drain; WP-19, with discharge into Pumice Drain, WP-20, with discharge into Salton Sea; WP-21, with discharge into Vail 3-A Spill. WP-11 was not installed, a maintenance crossing was installed in lieu of surface waste pump.

FARM TILE

The landowners installed a total of 1,061.32 miles of drain tile in 1980, for a total of 27,010.42 miles installed since 1929.

HYDRILLA

Work is continuing with the Imperial Irrigation District, State and County checking to find methods of control of the highly prolific water weed, *Hydrilla*, which was discovered growing in our system in June, 1977.

The New River and Wistaria Ponds on the All-American Canal, the Westside Main Heading and the Foxglove Heading on the Westside Main Canal were lowered several times during the year for inspection and control.

District spray rigs were modified to accomodate Komeen and Nalquatic treatments. All earth sections of the canal system were sprayed with Komeen in June. Work started on the 16th and was completed in 8 days. Komeen was sprayed on both sides of the All-American Canal below Central Main Check and all other dirt canals and ponds west of New River in August. Komeen was sprayed on both sides of the All-American Canal, downstream from Central Main Check, both sides of the entire Westside Main Canal, including the extension and on all dirt laterals and canals west of New River in September. The J. M. Sheldon Reservoir was sprayed with Komeen in November.

While the All-American Canal was on free flow, Aromatic Oil was sprayed on both sides of the exposed berm from: New River siphon to Westside Main Turnout, between Border Road and the Westside Main Turnout and between Anza Road and the Westside Main Canal.

The bantam dredged the berm on the right side of the All-American Canal between Stations 3955 and 3995, the area of the highest *Hydrilla* infestation.

A 35' x 60' concrete pad with drains and supply water from the Westside Main Canal, adjacent to Fern zanjero site, was constructed for *Hydrilla* experimental work to be performed by California Fish & Game. State of California, Department of Food and Agriculture paid total cost.

Komeen application has been curtailed with emphasis being placed on research and development of new material.

White Amur

Wormwood Lateral 3 Canal is being developed for feasibility study of White Amur (hybrid grass carp). It is planned to introduce the fish at a later date.

A spill structure was installed in Wormwood Lateral 3 outlet into Westside Main Canal. The structure was installed for *Hydrilla* control.

Water samples were taken from Wormwood Lateral 3 Heading and spill. These will be taken monthly and delivered to Coachella Valley Water District for analysis in connection with the hybrid grass carp program.

CONCRETE LINING PROGRAM

There were 21.36 miles of canals concrete lined on a participation basis with the landowner under the Concrete Lining Program during 1980.

SUMMARY OF ENGINEERING WORK

	<u>1980</u>	<u>1979</u>
Office		
1. No. Special Jobs	218	118
2. No. Delivery Investigations	50	52
3. No. Tile Drain Construction Investigations	196	491
4. No. Drain & Irrigation Investigations	222	93
5. No. Engineering Data Reports	222	205
6. No. of Power Jobs	15	10
7. No. Miscellaneous Jobs	300	441
Total	1 223	1 410
8. <u>Laboratory</u>		
(a) No. Silt Analyses	199	760
(b) No. Salinity Analyses	145	1 329
(c) No. Complete Analyses	128	165
Total Item No. 8	472	2 254
9. <u>Reproduction</u>		
(a) Blueprints - sq. ft.	114 472	110 586
(b) Photostats - sq. ft.	646	464
10. <u>Microfilm</u>		
(a) No. Drawings Microfilmed	3 954	4 244
Total No. Drawings Microfilmed May 1, 1975, to December 31, 1980	29 100	25 146
Field		
<u>Miles Staked or Surveyed</u>		
1. Delivery Investigations	11.07	18.62
2. Tile Drain Construction	0.73	0.61
3. Tile Drain Investigations	65.19	72.19
4. Drain and Irrig. Investigations	227.26	313.25
5. Power Surveys	34.13	0.00
Total	338.38	403.19
6. Test Well Readings - Man-Days	19.00	-
7. Miscellaneous - Party Hours	1 390.00	694.00

SUMMARY OF DRAINAGE ENGINEERING WORK

	<u>1980</u>	<u>1979</u>
1. Number Requests for Tile Drainage Invest.	86	75
Total Acreage for Tile Drainage Invest.	6 740	5 720
2. Number Requests for Tile Drainage Outlets Only	77	70
Total Acreage for Tile Drainage Outlets	5 560	4 800
3. Number Field Checks for Tile Invest. or Designs	100	89
Acreage for Field Checks for Tile Invest. or Designs	7 020	7 630
4. Number Tile Drainage Invest. Pending Acreage of Tile Drainage Invest. Pending	-	-
5. Number Soil and Water Table Invest. Acreage of Soil and Water Table Invest.	9 390	4 440
6. Number Profiles of Tile Drainage Invest. Acreage of Profiles of Tile Drain Invest.	56 4 940	59 5 090
7. Number Field Checks of District Drains to Provide Tile Outlets	134	132
8. Number Field Check for Depth of Tile Outlets	151	139
9. Number Tile Drainage Designs Completed Acreage in Tile Drainage Designs Completed	51 4 040	43 3 300
10. Number Contacts with Landowner or others in Field	840	790
11. Number Contacts with Landowner or others in Office	4 500	4 300
12. Number Metered Tile Effluents	129	258
13. Number Seepage Invest. of IID Canals	1	5
14. Number Test Wells for Proposed Sumps	9	8
15. Number Special Investigations	34	61
16. Number Field Checks of Tile Machine	202	207

**CONCRETE LINED CANALS, PIPELINE DRAINS,
TILE DRAINS AND DRAINAGE PUMPS**

SUMMARY OF CONCRETE LINED CANALS

Year	Concrete Lined Farm Ditches		Concrete Lining of District Canals			
	Length (Miles)	Cumulative Length (Miles)	For Private Maintenance		For District Maintenance	
			Cumulative Length (Miles)	Length (Miles)	Length (Miles)	Length (Miles)
1952	52.00	105.00	-	-	-	-
1953	42.70	147.70	-	-	-	-
1954	48.20	195.90	-	.80	.80	42.70
1955	103.00	298.90	1.15	.50	1.30	49.00
1956	125.60	424.50	4.05	1.66	2.96	104.65
1957	128.90	553.40	4.53	9.73	3.15	131.31
1958	98.40	651.80	4.97	14.70	3.11	136.58
1959	115.70	767.50	7.56	22.26	4.07	9.22
1960	122.10	889.60	4.60	26.86	3.62	16.91
1961	89.50	979.10	4.41	31.27	10.10	27.01
1962	93.30	1 072.40	1.60	32.87	17.67	44.68
1963	118.30	1 190.70	5.74	38.61	27.54	72.22
1964	110.80	1 301.50	3.53	42.14	50.52	122.74
1965	80.70	1 382.20	.76	42.90	54.35	177.09
1966	72.30	1 545.50	.75	43.65	68.24	245.33
1967	62.90	1 517.40	.40	44.05	60.24	305.57
1968	67.50	1 584.90	1.02	45.07	51.68	357.25
1969	73.00	1 657.90	.27	45.34	56.11	413.36
1970	66.10	1 724.00	.61*	45.95*	38.74*	452.10*
1971	63.10**	1 787.10**	.93	46.88	35.85	487.95
1972	61.20	1 848.30	1.21	48.09	36.20	524.15
1973	71.50	1 919.80	1.11	49.20	29.94	554.09
1974	94.50	2 014.30	1.00	50.20	31.17	585.26
1975	56.80	2 071.10	2.44	52.64	38.39	623.65
1976	68.00	2 139.10	.77	53.41	38.25	661.90
1977	60.30	2 199.40	.30	53.71	34.63	696.53
1978	33.40	2 232.80	-	53.71	19.20	715.73
1979	21.60	2 254.40	-	53.71	21.79	737.52
1980	21.40	2 275.80	-	53.71	21.36	758.88

* Correction 3/22/72

** Correction 1/73

Mileage on District canals shown includes structures

SUMMARY OF CONCRETE LINED CANALS AND FARM DITCHES

Year	Concrete Lined Farm Ditches		Private Maintenance		L.O. & IID Participation		District Maintenance		Concrete Lining of District Canals	
	Miles	To Date	Miles	To Date	Miles	To Date	Miles	To Date	Total Miles	Cost to Others
1952	52.00	105.00	-	-	-	-	-	-	-	-
1953	42.70	147.70	-	-	-	-	-	-	.80	.80
1954	48.20	195.90	-	-	.80	.80	-	-	.50	1.30
1955	103.00	298.90	1.15	1.15	.50	1.30	-	-	1.66	2.96
1956	125.60	424.50	4.05	5.20	1.66	2.96	-	-	3.15	6.11
1957	128.90	553.40	4.53	9.73	3.15	6.11	-	-	3.11	9.22
1958	98.40	651.80	4.97	14.70	3.11	9.22	-	-	4.07	13.29
1959	115.70	767.50	7.56	22.26	4.07	13.29	-	-	3.62	16.91
1960	122.10	889.60	4.60	26.86	3.62	16.91	-	-	10.10	27.01
1961	89.50	979.10	4.41	31.27	10.10	27.01	-	-	17.67	44.68
1962	93.30	1 072.40	1.60	32.87	17.67	44.68	-	-	27.54	72.22
1963	118.30	1 190.70	5.74	38.61	27.54	72.22	-	-	50.52	122.74
1964	110.80	1 301.50	3.53	42.14	50.52	122.74	-	-	1.52	54.35
1965	80.70	1 382.20	.76	42.90	52.83	175.57	1.52	1.52	51.68	177.09
1966	72.30	1 454.50	.75	43.65	67.24	242.81	1.00	2.52	68.24	245.33
1967	62.90	1 517.40	.40	44.05	60.24	303.05	-	2.52	60.24	305.57
1968	67.50	1 584.90	1.02	45.07	47.17	350.22	4.51	7.03	51.68	357.25
1969	73.00	1 657.90	.27	45.34	55.10	405.32	1.01	8.04	56.11	413.36
1970	66.10	1 724.00	.61*	45.95*	38.74*	444.06*	-	8.04	38.74*	452.10*
1971	63.10 **	1 787.10	.93	46.88	35.01	479.07	.84	8.88	35.85	487.95
1972	61.20	1 848.30	1.21	48.09	36.20	515.27	-	8.88	36.20	524.15
1973	71.50	1 919.80	1.11	49.20	29.94	545.21	-	8.88	29.94	554.09
1974	94.50	2 014.30	1.00	50.20	31.17	576.38	-	8.88	31.17	585.26
1975	56.80	2 071.10	2.44	52.64	38.39	614.77	-	8.88	38.39	623.65
1976	68.00	2 139.10	.77	53.41	38.25	653.02	-	8.88	38.25	661.90
1977	60.30	2 199.40	.30	53.71	34.63	687.65	-	8.88	34.63	696.53
1978	33.40	2 232.80	-	53.71	19.20	706.85	-	8.88	19.20	715.73
1979	21.60	2 254.40	-	53.71	21.79	728.64	-	8.88	21.79	737.52
1980	21.40	2 275.80	-	53.71	21.36	750.00	-	8.88	21.36	758.88

* Correction 3/22/72

** Correction 1/73

Mileage on District canals shown includes structures

PIPELINE DRAIN INSTALLATIONS
(District O & M)

<u>Year</u>	<u>Miles</u>	<u>Cumulative Length</u>
1962	1.38	22.51
1963	9.74	32.25
1964	5.38	37.63
1965	4.92	42.55
1966	13.64	56.19
1967	7.11	63.30
1968	6.24	69.54
1969	7.37	76.91
1970	3.69	80.06*
1971	2.16	82.22
1972	5.54**	87.76**
1973	1.83	89.59
1974	5.31	94.90
1975	7.97***	102.87***
1976	1.11	103.98
1977	1.36	105.34
1978	.91	106.25
1979	1.12	107.37
1980	2.13	109.50

*0.54 of a mile abandoned

**0.48 of a mile is in the total miles, but no additional miles in records as parallel drain

***0.27 of a mile is in the total miles, but no additional miles in records as parallel drain

TILE INSTALLED IN IMPERIAL IRRIGATION DISTRICT

<u>Year</u>	<u>Miles of Tile Installed</u>	<u>Cumulative Total Miles Tile Installed</u>	<u>No. Acres Tiled</u>	<u>Cumulative Total No. Acres Tiled</u>
1929 to 1939, Inclusive				
Cumulative Total Miles Installed - 332.77				
Total Acres Prior to 1940 ---12,220				
1940	66.84	399.61	4 040	16 240
1941	46.08	445.69	2 880	19 120
1942	37.15	482.84	2 040	21 160
1943	53.24	536.08	3 960	25 120
1944	60.00	596.08	1 880	27 000
1945	55.00	651.08	3 240	30 240
1946	133.25	784.33	5 480	35 720
1947	325.00	1 109.33	17 920	53 640
1948	393.80	1 503.13	17 220	70 860
1949	455.62	1 958.75	21 670	92 530
1950	458.00	2 416.75	22 610	115 140
1951	603.10	3 019.85	22 665	137 805
1952	709.54	3 729.39	23 345	161 150
1953	512.19	4 241.58	16 000	177 150
1954	491.12	4 732.70	14 960	192 110
1955	526.92	5 259.62	15 160	207 270
1956	519.36	5 778.98	13 290	220 560
1957	560.97	6 339.95	12 200	232 760
1958	490.88	6 830.83	10 690	243 450
1959	546.54	7 377.37	9 550	253 000
1960	794.05	8 171.42	15 713	268 713
1961	857.51	9 028.93	17 921	286 634
1962	611.01	9 639.94	11 485	298 119
1963	766.02	10 405.96	10 129	308 248
1964	993.97	11 399.93	12 707	320 955
1965	734.52	12 134.45	7 958	328 913
1966	527.38	12 661.83	6 634	335 547
1967	634.00	13 295.83	6 419	341 966
1968	754.33	14 050.16	6 046	348 012
1969	808.64	14 858.80	6 010	354 022
1970	1 036.61	15 895.41	8 230	362 252
1971	919.34	16 814.75	7 552	369 804
1972	1 019.40	17 834.15	7 311	377 115
1973	1 154.35	18 988.50	8 031	385 146
1974	1 191.96*	20 180.46*	3 734	388 880
1975	1 223.22	21 403.68	6 258	395 138
1976	1 530.67	22 934.35	7 941	403 079
1977	822.31	23 756.66	3 441	406 520
1978	958.32	24 714.98	5 719	412 239
1979	1 234.11	25 949.10	6 636	418 875
1980	1 061.32	27 010.42	3 873	422 748

*Correction 6/1/75

TILE DRAINAGE SUMPS

Breakdown of Cost of O & M
(Dollars)
Standard Sumps

Annual Cost for All Sumps

Average Annual Cost Per Sump

		Total Maint.	Total Power	Total Cost	Labor	Material	Equip.	Total Maint.	Total Power	Total Cost Per Sump
16	\$ 1 499	\$ 6 890	\$ 6 448	\$13 338	47	\$19	\$18	\$84	\$79	\$163
18	1 991	9 609	6 846	16 455	58	27	22	107	76	183
2	2 489	9 704	8 691	18 395	51	23	25	99	89	188
17	1 476	7 572	9 188	16 760	44	11	13	68	82	150
2	2 346	10 253	12 854	23 107	44	13	17	74	93	167
3	1 623	11 594	15 971	27 565	43	21	10	74	102	176
4	2 131	16 417	21 272	37 689	45	35	12	92	119	211
8	2 320	18 499	17 720	36 219	46	33	11	90	87	177
0	2 958	27 471	16 349	43 820	57	49	13	119	71	190
9	3 153	31 454	15 569	47 023	59	54	13	126	63	189
8	4 279	33 575	15 391	48 966	63	47	16	126	58	184
1	3 554	29 307	18 188	47 495	53	37	12	102	63	165
3	4 976	39 920	19 178	59 098	70	41	15	126	61	187
7	6 323	49 338	20 976	70 314	76	50	18	144	61	205
7	5 667	60 896	22 123	83 019	68	85	16	169	62	231
2	7 072	65 382	23 485	88 867	79	75	19	173	62	235
4	5 477	36 867	25 820	62 687	63	16	14	93	66	159
7	6 273	54 117	34 692	88 809	79	37	15	131	84	215
5	7 173	59 197	43 936	103 133	85	37	17	139	104	243
0	8 187	66 972	48 485	115 457	92	44	19	155	112	267
3	8 694	86 771	43 741	130 512	109	70	20	199	100	299
2	8 720	89 065	55 304	144 369	127	56	20	203	126	329
9	9 786	111 443	73 905	185 348	166	61	22	249	165	414
4	10 413	132 285	88 721	221 006	170	96	23	289	194	483

TILE DRAINAGE SUMPS

Breakdown of Cost of O & M
(Dollars)
Salton Sea Sumps

Year	No. of Sumps		Annual Cost for All Sumps						Average Annual Cost Per Sump					
	Total No.	Weighted Average	Labor	Material	Equipment	Total Maint.	Total Power	Total Cost	Labor	Material	Equip.	Total Maint.	Total Power	Total Per Sump
1957	15	14	\$ 201	\$ 119	\$ 23	\$ 343	\$1 796	\$2 139	\$ 14	\$ 9	\$ 2	\$ 25	\$128	\$153
1958	19	18	514	162	71	747	2 232	2 979	29	9	4	42	124	166
1959	22	20	897	211	518	1 626	2 629	4 255	45	10	26	81	132	213
1960	22	22	706	220	429	1 355	2 332	3 687	32	10	20	62	106	168
1961	25	24	829	327	598	1 754	3 049	4 803	34	14	25	73	127	200
1962	25	25	752	3 063	530	4 345	3 386	7 731	30	123	21	174	135	309
1963	27	26	1 381	3 509	917	5 807	4 487	10 294	53	135	35	223	173	396
1964	29	29	1 026	1 101	941	3 068	3 908	6 976	35	38	33	106	135	241
1965	29	29	1 102	951	887	2 940	3 179	6 119	38	33	30	101	110	211
1966	30	30	1 361	2 880	995	5 236	2 883	8 119	45	96	33	174	96	270
1967	30	30	991	3 034	823	4 848	2 644	7 492	33	102	27	162	83	245
1968	30	30	1 407	5 740	1 079	8 226	2 958	11 184	47	191	36	274	99	373
1969	30	30	1 815	4 759	1 529	8 103	3 325	11 428	60	159	51	270	111	381
1970	30	30	2 008	2 030	873	4 911	3 243	8 154	67	68	29	164	108	272
1971	30	30	3 488	10 660	1 529	15 677	3 551	19 228	116	356	51	523	118	641
1972	30	30	2 787	7 611	1 209	11 607	3 702	15 309	93	254	40	387	123	510
1973	30	30	1 945	739	943	3 627	3 941	7 568	65	25	31	121	131	252
1974	30	30	1 822	195	1 541	3 558	5 087	8 645	61	6	51	118	170	288
1975	30	30	2 264	576	2 069	4 909	6 462	11 371	76	19	69	164	215	379
1976	30	30	2 728	860	2 664	6 252	6 829	13 081	91	28	89	208	228	436
1977	30	30	2 556	1 141	2 944	6 641	8 476	15 117	85	38	98	221	283	504
1978	30	30	3 298	3 341	2 748	9 387	10 542	19 929	110	111	92	313	351	664
1979	30	30	3 409	3 141	1 026	7 576	13 008	20 584	114	105	34	253	433	686
1980	30	30	7 863	7 797	2 444	18 104	21 267	39 371	262	260	81	603	709	1 312

DRAIN SUMP PUMPS - January 1, 1981 (Continued)

<u>Name</u>	<u>Location</u>	<u>Discharge Into</u>	<u>Date Installed</u>	<u>Type & Depth of Sump</u>	<u>No. and HP Pumps</u>	<u>Power Account No.</u>	<u>Center L. of Discharge to Top of Sump</u>
<u>Pumps Installed, Operated and Maintained by IID (In Connection with IID Facilities)</u>							
DP 20!! DP 20 Pipeline Drain	Ctr. NW $\frac{1}{2}$ Sec. 26, 14-16	East Highline Canal	9-26-68	Conc. 20'	1 @ 5**	11-11-1025-03	Over Top
DP 21!! DP 21 Pipeline Drain	NE Cor. Lot 7, Sec. 12, 16-16	East Highline Canal	11-12-68	Conc. 20'	1 @ 10**	06-10-0760-02	Over Top
DP 22!! DP 22 Pipeline Drain	NE Cor. Lot 2, Sec. 12, 16-16	East Highline Canal	11-4-68	Conc. 20'	1 @ 10**	06-10-0763-09	Over Top
DP 23!! DP 23 Pipeline Drain	NE $\frac{1}{2}$ Sec. 28, 13-16	East Highline Canal	3-30-70	Conc. 20'	1 @ 10**	06-40-0211-01	Over Top
DP 24!! DP 24 Pipeline Drain	NW $\frac{1}{2}$ Sec. 2, 14-16	East Highline Canal	10-6-71	Conc. 20'	1 @ 10**	11-11-0788-02	Over Top
DP 25!! DP 25 Pipeline Drain	SW $\frac{1}{2}$ Sec. 2, 14-16	East Highline Canal	1-11-72	Conc. 20'	1 @ 10**	11-11-0786-04	Over Top
DP 26!! DP 26 Pipeline Drain	N $\frac{1}{2}$ Tr. 59, 14-16	East Highline Canal	11-24-72	Conc. 20'	2 @ 10**	11-11-0798-00	Over Top
DP 27!! DP 27 Pipeline Drain	SW $\frac{1}{2}$ Sec. 36, 15-16	East Highline Canal	12-13-72	Conc. 20'	2 @ 10**	11-11-1807-07	Over Top
DP 28!! DP 28 Pipeline Drain	Near Ctr. S Line, SW $\frac{1}{2}$ Sec. 23, 14-16	East Highline Canal	1-28-74	Conc. 20'	1 @ 15**	11-11-0855-00	Over Top
DP 29!! DP 29 Steam Plant	S $\frac{1}{2}$ Tr. 47, 15-14	Central S Drain	2-6-80	Conc. 14'	1 @ 5	12"	

!! In Connection with Providing Outlet for Waste Water

!! In Connection with Water Recovery Study

*220 - Single-Phase

**220 - 3 Phase

**440 - 3 Phase

DRAIN SUMP PUMPS - January 1, 1981 (Continued)

<u>Name</u>	<u>Location</u>	<u>Discharge Into</u>	<u>Date Installed</u>	<u>Type & Depth of Sump</u>	<u>No. and HP Pumps</u>	<u>Power Account No.</u>	<u>Center L. of Discharge to Top of Sump</u>
<u>Pumps Owned, Operated, and Power Bills Paid by Landowners - Mechanical Maintenance by IID</u>							
R. S. Dhillon (DP No. 13)	NE Cor. Tr. 56, 16-13	Dahlia Canal, Gate 12	1941	Tim. 14'	1 @ 1½	05-20-1175-08	

DRAIN SUMP PUMPS - January 1, 1981 (Continued)

<u>S. No.</u>	<u>Name</u>	<u>Location</u>	<u>Discharge Into</u>	<u>Date Installed</u>	<u>Type & Depth of Sump</u>	<u>No. and HP Pumps</u>	<u>Power Account No.</u>	<u>Center L. of Discharge to Top of Sump</u>
<u>Pumps Installed, Operated, and Maintained by IID (In Connection with Providing Outlet for Waste Water)</u>								
Mesa Drain No. 8 - (DP No. 9)	NW Cor. NW of SE $\frac{1}{2}$ Sec. 25, 16-16	Mesa Drain No. 8 Pipeline	9-7-54	Conc. 12'	1 @ 3*	06-10-0536-05	36"	